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TEXTILE WORLD RECORD

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Correspondence.

We solicit correspondence on textile subjects. Articles accepted will be paid for. Name and address must always be given, not necessarily for publication. Subscribers are invited to make free use of our Questions and Answers Department; correspondence is strictly confidential.

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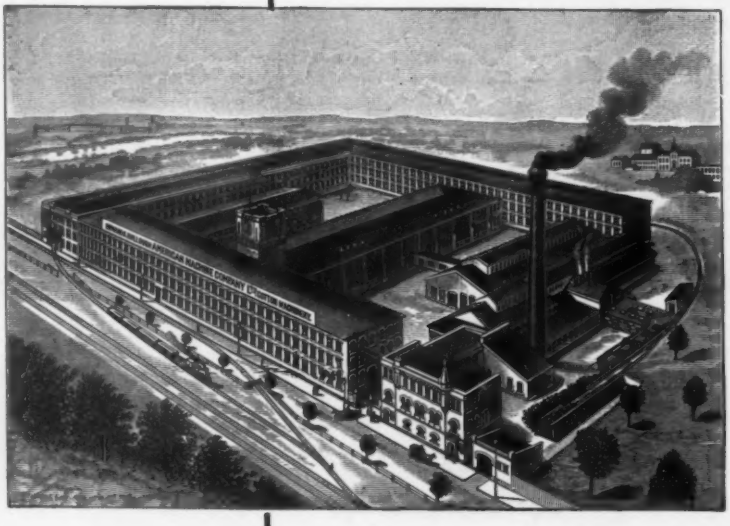

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TEXTILE WORLD RECORD

COMBINING

The Textile World and Textile Record.

VOL. 39 (NEW SERIES.) September, 1910 No. 6

Monthly Comment.

The Tariff on Cotton Goods.

The statement on the cotton goods tariff by Walter H. Langshaw, president of the Dartmouth Mills Corporation, New Bedford, which appears in this issue, deserves attention because of the importance of the question, the vigorous manner in which the case is presented, and the prominence of the writer in the trade. Mr. Langshaw's statement was prompted by the reply, published in our August issue, of Messrs. J. R. MacColl and Henry F. Lippitt to the article on the cotton goods schedule in the August issue of "World's Work."

It is unfortunate that the tariff question was not settled last year to the satisfaction of the country. It is particularly unfortunate for the textile industry that the textile schedules, I and K, are the bone of contention, the object of the principal attack from all quarters. That, however, is the stubborn fact, and the part of wisdom is not only to recognize it, but to discover the cause and avoid a repetition of the present experience in the new revision of the tariff that now appears probable within the next two or three years. The cause of the dissatisfaction with the Payne textile tariff schedules is not that prices have been advanced under them. As a matter of fact the prices for both cotton and wool goods have not been unduly advanced. Cotton goods have not advanced to compensate for the increase in the cost of the raw material, in which there is free trade, while the prices of wool goods have declined since the Payne tariff went into effect. The real reason for the intense popular dissatisfaction with the textile schedules is that the people believe they were framed outside of the halls of Congress by the producing interests they affected most. It seems to us that Mr. Langshaw loses sight of this vital fact when he says:

> "A committee comprised of mill owners and men actively engaged in the business could easily make up a schedule that would provide ample protection and would not create serious opposition from any section of the country."

In the present temper of the people of the United States no tariff framed by a committee representing special producing interests can escape serious opposition. The only way to satisfy the popular demand is to frame the tariff schedules in accordance with the facts as disclosed by a deliberate and thorough investigation by competent and unbiased experts. No person of sense would think of excluding the manufacturers from participation in such an investigation, but such participation must be free from the suspicion of undue control if the people, who rule this country when they please, are to be satisfied with the result.

Another and even more evident mistake on Mr. Langshaw's part is disclosed, or rather admitted, in this passage:

> "Notwithstanding my convictions and large interests, I have refrained from taking active part during the session of Congress, out of consideration for those of my contemporaries who were in the majority, and who have for years arrogantly assumed that they only were qualified to outline the policy to be pursued."

The responsibility for the control of tariff legislation by little coteries of manufacturers rests chiefly on those who fail to protest against it in season, and of whom Mr. Langshaw is one. Mr. Langshaw's vigorous protest comes a year and a half too late to have any effect in preventing the tariff difficulty in which the textile trade now finds itself. He should have done in the early months of 1909 what he is doing now, and what the Textile World Record tried its best to do, point out the mistakes of the Payne revision of the textile schedules before Congress and the President incorporated them into law. In April, 1909, we called attention to certain defects in the then pending cotton schedule. We examined in detail the schedule as proposed by Messrs. Lippitt and MacColl, concluding our comments with this advice:

But the most serious objection to the Payne thread counting clause is that it disturbs an established and well-understood method of counting threads, introducing great uncertainty and confusion in a schedule that is at best complicated and difficult to understand. This objection to a change of the established order of things would be as sound even if the Payne method of counting threads were in use and the change were to the Dingley method. The Payne method would, as far as we can discover, differ from all other tariff bills in this and foreign countries and causes only confusion. It is unfortunate that this change in counting threads should have been attempted at this particular time, when there is so much criticism of revision by indirection, and doubly unfortunate that the change should operate so as to raise duties on cheap goods more than on the higher priced fabrics. If the tariff on cotton goods is too low let it be raised to the right level after good reasons have been advanced for the increase. But this raising of rates in complicated schedules by changing established methods of counting threads in such a way that even an expert can understand the effect of the change only after complicated calculations, is a mistake and calculated to do more harm than good to the cause of true protection.

The discovery of the thread counting joker, made, not only by ourselves, but independently by a number of others, forced Chairman Payne to withdraw it while the bill was pending in the House. If our example of outspoken criticism of the Payne bill in the early months of 1909, had been generally followed, if the underlying principle of this April, 1909, suggestion had been adopted in the revision of the textile schedules, the textile trade would now be free from the disturbing influence of another and radical revision.

Cotton Growing in California.

Last month we published an account of cotton growing in the Imperial Valley, California, written by W. H. Kindig, of El Centro. The following letter giving additional information was received from Mr. Kindig, but too late for that issue:

El Centro, Cal., July 28, 1910.

Editor Textile World Record:

A letter from you to Mr. J. T. Walker of the California Cotton Co. has just come into my hands accidentally. As it is very desirable for you to have the latest information, I will give you some facts to add to my article published in the Los Angeles Herald. On account of the difficulty of getting labor to prepare the ground, the acreage planted fell somewhat short of my estimates. About 18,000 acres were actually planted. In order to get this amount planted, however, it was necessary to arrange some plan by which money could be borrowed by the grower on his growing crop. As there was no idle money in the Valley banks, it had to be sought for outside. Capitalists in Los Angeles, San Francisco and New York looked the field over carefully with a view of investing in Imperial Valley cotton mortgages which would bring a high rate of interest. They could not accept the evidence produced, and so turned the proposition down. The money to finance the crop was finally obtained from the San Diego banks, they loaning it through the Joseph R. Loftus Company, the largest individual planters, making them responsible for the inspection of crops, and for the repayment of the loans. In an ordinary country depending upon erratic rainfall, this would have been a great risk, but here where a crop is assured if a good stand is obtained to begin with, the risk is reduced to a minimum.

Southern classifiers who have visited this country tell us that on account of the uniform whiteness, and the superior strength of the fiber, the staple being an inch in length and over, our cotton will grade strict good middling. The prospects now are flattering. Picking will begin August 15. On account of lateness of planting, it will not be in full swing until a month later. It will continue through January. The growers here are certainly in need of help. If two or three hundred Southern white families could be brought into the valley it would be a good thing for all concerned. Individual growers, however, have comparatively small tracts, and none of them could afford to advance railroad fares, but there is plenty of work for any coming in. The labor at present is of a high class, and will be kept so if possible. The cotton fruits plentifully, and the offer of $1.00 per hundred pounds for picking attracts white help. If the picking time actually arrives and a plentiful supply of white help is not forthcoming, it is probable that a thousand or more Mohammedans will be brought in from the northern part of the state to assist in gathering the crop.

Six new gins are being installed in various towns of the valley and an oil mill of sixty tons daily capacity will be located at El Centro. The Joseph R. Loftus Co. will put in a compress at El Centro and make this a cotton center.

W. H. Kindig.

In our reply we indicated to Mr. Kindig a disapproval of his plan to develop cotton growing in the Imperial Valley with Mohammedan labor, stating our opinion that the Valley should be made a white man's country, as the presence of unassimilative races causes serious trouble. We added that it would be better to go without cotton than to get into that difficulty. Mr. Kindig replied promptly as follows:

El Centro, Cal., Aug. 9, 1910.

Editor Textile World Record:

Yours of August 2, addressed to the writer personally, is at hand. I regret you did not get the first letter in time to incorporate it in the August article, because it brings the information down to date. My letter can appear in your September issue, but I would be pleased to add to it. The picking of cotton has begun in the Valley, and we ginned our first bale on August 5. We are sending you a small sample by this mail which may be of interest to you. Evidently I did not make myself understood in regard to the labor question. I intended to say that, if the cotton picking season came on and it was impossible to get other help, we could get the work done by Japanese and Hindoos, but we are exerting every effort possible to bring into the Valley only high class American labor. To this end, we are offering $1.00 per hundred for picking. Our cotton fruits plentifully, and is kept clean of weeds. As it yields from one to one and a half bales to the acre, the price offered should attract sufficient white help to take care of the entire crop. We are now advertising in several Southern papers to that effect, and we hope we can get a large number of Southern families to come from the Southern boll weevil district into Imperial Valley to help us make our cotton.

W. H. Kindig.

The sample of Imperial Valley cotton can be seen at our Boston office. Portions of it will be mailed to anyone interested on application.

Cotton Growing in India.

An imposing delegation representing both Lancashire and Indian cotton mill owners called on Lord Morley, Secretary of State for India, several weeks ago to urge that measures be adopted for increasing and improving the Indian cotton crop. The Rt. Hon. A. Emmott, leader of the delegation, began his address to Lord Morley with this impressive statement of the present crisis and the vast interests involved:

Mr. Emmott—I shall confine myself to emphasizing in a few sentences the great gravity of the present position of the cotton trade and the urgency of our needs. You must know that the export trade in manufactured goods from this country is the greatest export trade in manufactured goods of any kind from any country in the world.

Lord Morley—In money value?

Mr. Emmott—In money value. Our total exports during the last five years have varied from £92,000,000 to £110,000,000 sterling in value. They represent almost half of our total exports of manufactured goods. They represent almost half of the total value of manufactured goods exported from Germany, and within £20,000,000 of the total of manufactured goods exported from France. That represents a vast trade, and that trade is at the present moment in great difficulty, if not in absolute danger, because of the shortage of the supply of the raw material of the industry. The high price of cotton at the moment, and the extreme scarcity of the cotton, even apart from its price, have rendered resort either to short time, or in many cases a stoppage, inevitable. Employers are losing vast sums of money owing to the unprofitable trade, and employes are losing a considerable portion of the wages which they are able to earn when the mills are running full time.

One gratifying feature of the hearing was the unqualified acceptance of a proposition that for years we have urged on Lancashire, apparently with no other result than to increase the opposition to it, namely, that "it makes no difference where the European gets his supply of cotton, so long as he gets it." Mr. Emmott voiced his approval of that proposition in these words:

I submit, that a greater supply of Indian cotton, irrespective of quality, will release a certain amount of American cotton, of which we are so short in Lancashire at the present time.

C. W. Macara, president of the International Cotton Federation, who has been one of the most strenuous supporters of the plan to promote cotton growing on national rather than international lines, was the most vigorous in assuring Lord Morley that cotton growing was an international problem:

It does not matter much whether the cotton grown in India is used by the Lancashire spinner, or by the Indian, Continental or American spinner. The question of cotton growing must be treated from an international point of view, because, if the Continental spinner is using Indian cotton in place of American cotton, it is evident that there will be a corresponding quantity of American cotton left over for the Lancashire spinner, who at present suffers enormously from the scarcity of the supply of American cotton. The extension of cotton growing in India would

thus not only benefit Continental, but also Lancashire and Indian spinners.

There was one thing that evidently had made all the speakers pause, namely the quality of Indian cotton. Mr. Emmott referred to this feature as follows:

It is arguable that if India can greatly increase her supplies of cotton, and America is unable to find us more cotton, Great Britain may be forced more and more to use Indian cotton. It is recorded that during the days of the great cotton famine they had a prayer meeting in Lancashire at which they asked the Almighty to send more cotton, and that one Lancashire operative prayed in this way, "O Lord, send us more more cotton, but, O Lord, not Surat." Since the days of that famine, Lancashire has as a matter of fact, more and more resorted to the use of finer classes of cotton, and I must say for my own part, that I think the situation in Lancashire would be more relieved by a supply of better cotton, if India can be induced to give us better cotton, than even by an increase in the supply.

One error to which Lancashire has clung, that the evils of cotton speculation can be corrected by increasing the supply of cotton, was in evidence at the Morley reception. Thus Mr. Macara said:

By increasing the supply of cotton the price of all varieties is reduced, and further, speculation in American cotton will become more difficult to carry on.

In view of the rapid increase in the demand for cotton the idea of ending speculation by increasing the supply appears ridiculous. Sooner or later the cotton trade will realize that the way to correct the evils of speculation in the raw material is by the strict regulation of cotton exchanges, and that the first step in providing that regulation is to make a thorough and scientific investigation of the question. If the plan formulated at the Atlanta Cotton Conference, for an international cotton committee had been carried out and such a committee had after careful study formulated rules for the conduct of cotton exchanges, it is not improbable that this vexed question of cotton speculation would now be well advanced toward solution. To attempt a solution by increasing the cotton supply is to chop with the back of the axe.

In his statement to Lord Morley, Mr. Macara frankly admitted that Lancashire had neglected cotton growing in India for fear it would encourage the Indian cotton spinning industry:

It seems to be generally recognized by Lancashire cotton spinners that sufficient attention has not been paid in the past to the cultivation of cotton in India. This want of attention was, no doubt, partly due to the assumption which was freely entertained some years ago that by extending cotton growing in India the Lancashire cotton industry would create for itself a formidable competitor in the Indian cotton spinning industry by facilitating the work of the Indian millowner. We believe, however, that most of the Lancashire spinners and the public generally are recognizing the futility of such an argument, as if it holds good as regards India it must necessarily hold good in any other country where cotton growing and manufacturing are carried on simultaneously, e. g., it would apply to the United States of America, from which country our largest supply of cotton is obtained, and where increased cotton crops would be welcomed by every spinner in the world.

Thus another error is fading away, and the European cotton spinner has reached the point where he is ready to acknowledge that "American cotton, like that of Asia and Africa, belongs to those who will pay the most for it."

The suggestions presented to Lord Morley for increasing and improving the Indian cotton crop, included the introduction of improved methods under official supervision, the establishment of seed farms and selection of seed of indigenous growth, establishing buying centers for cotton, increasing the number of agricultural banks, removal of the export duty on cotton and issuing fortnightly ginners' reports, as in the United States.

In replying to the addresses Lord Morley made it plain that, while sympathizing with the objects sought by the petitioners, he was not prepared to go as far as they desired him to go in abandoning the policy of *laissez faire* in the government's relations with the people of India. Lord Morley said in part:

It had been suggested that the Government of India should make grants to the local governments. He wanted them to establish cotton-purchasing centers. They must remember, however, that the Government of India had not unlimited funds at their disposal.

There was another consideration to be taken into account. They would all agree that it would never do for the Government of India to direct all its energies to the development of one single branch of industry to the neglect of all others. He was only saying that so that they might see

that there were difficulties to face in carrying out the policy which they recommended. What he had said did not in the least diminish his interest in the proposals laid before him and his desire to see what could be done to carry out anything which would bring about the main object they had in view—(hear, hear),—because he believed it was for the best interests of Lancashire and of India

He had said something about the expansion of the capacities of India as a cotton-growing country. He had some figures given to him which were quite remarkable. First, as to area of cultivation. He found that the area had been increased in the last twelve or fourteen years from 15,000,000 acres to 20,000,000. In the same period the amount of cotton grown had increased from

EXPORTS AND IMPORTS OF RAW WOOL, YARN AND WASTE.

Lbs. in units of one million. Value in units of $100.000.

Year Ending June 30.	Exports.		Imports.					
	Wool.		Wool.		Shoddy, Noils, etc.		Yarn.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
1890	.231	.335	106.3	152.6	5.0	20.5	3.5	19.9
1891	.291	.394	129.3	182.4	1.2	4.3	2.0	11.9
1892	.202	.306	148.7	196.9	.3	.9	1.3	7.5
1893	.091	.148	172.4	210.6	.3	1.1	1.2	6.9
1894	.520	.906	55.2	61.1	.1	.5	.5	3.6
1895	4.289	4.844	192.8	229.9	14.1	19.8	2.4	11.7
1896	6.945	8.559	228.4	315.0	18.7	26.5	2.0	10.5
1897	5.271	6.199	366.6	567.5	49.9	69.3	1.8	9.6
1898	.121	.180	132.8	167.8	5.3	6.9	.3	1.9
1899	1.683	2.373	76.7	83.2	.3	.7	.2	1.1
1900	2.200	3.872	155.9	202.6	.4	.9	.2	1.3
1901	.200	.240	104.0	125.2	.6	1.8	.2	1.5
1902	.123	.133	166.2	177.1	.2	.6	.4	1.9
1903	.518	.718	177.1	221.5	.3	.9	.3	1.9
1904	.319	.371	173.7	248.1	.2	.5	.1	1.1
1905	.123	.150	249.1	462.2	.2	.8	.1	1.2
1906	.192	.290	201.7	390.7	1.2	4.3	.2	1.6
1907	.214	.488	203.8	415.3	.6	2.7	.1	1 5
1908	.183	.421	125.9	236.6	1.2	1.2	.2	1 5
1909	.028	.047	266.4	451.7	.5	1.4	.3	2.3
1910	.047	.010	263.9	512.2	—	—	—	—

EXPORTS AND IMPORTS OF MANUFACTURED WOOLENS.

Value in units of $100,000.

Year Ending June 30.	Exports—Value.						Imports—Value.							
	Carpets.	Dress Goods.	Flannels and Blankets.	Apparel.	Other.	Total.	Carpets.	Cloths.	Dress Goods.	Shawls.	Clothing.	Knit Goods.	Other.	Total.
1890	.067	....	.409	3.179	.719	4.374	7.5	161.4	242.0	10.1	18.4	19.8	66.2	525.4
1891	.184	....	.265	4.240	.502	5.191	13.7	126.3	182.4	7.2	18.6	12.5	39.7	394.2
1892	.093	....	.244	2.689	.649	3.675	12.9	127.6	164.7	3.5	14.8	11.6	12.1	347.4
1893	.115	...	.242	2.224	.679	3.260	15.8	151.2	164.8	2.8	11.7	14.1	12.0	372.4
1894	2.500	....	.387	3.172	1.685	7.744	9.6	67.6	85.8	1.6	8.6	10.0	7.2	190.8
1895	1.610	....	.498	3.161	1.432	6.701	13.6	163.0	144.0	2.0	10.0	9.4	11.8	353.5
1896	2.252	....	.370	3.653	2.860	9.135	8.9	218.9	199.3	4.5	13.0	25.4	27.4	497.4
1897	1.895	....	.573	2.858	3.150	9.476	7.8	170.1	107.9	4.6	9.8	25.3	27.0	412.4
1898	1.612	.414	.474	4.290	4.074	10.89	17.9	39.6	60.4	.4	7.6	3.9	9.6	139.5
1899	.811	.169	.427	5.388	3.679	10.47	17.6	39.1	59.1	.5	8.3	6.3	5.6	136.5
1900	1.150	.244	1.002	5.654	4.485	12.54	27.5	51.3	58.7	.8	9.9	5.0	6.3	159.1
1901	1.051	.082	1.230	8.060	5.005	15.43	27.0	39.6	53.7	.8	11.7	4.1	5.3	142.4
1902	.867	.070	.883	8.521	4.780	15.12	34.4	48.0	64.0	.5	13.3	5.7	5.2	171.4
1903	.579	.074	.481	12.908	3.187	17.22	37.5	48.6	75.1	.5	19.2	6.7	4.7	195.
1904	.509	.078	.105	14.577	3.663	19.87	27.9	41.5	82.0	.5	13.0	5.1	5.2	175.2
1905	.646	.155	.815	16.244	2.488	20.35	28.7	39.7	86.1	.6	13.7	2.2	5.4	178.2
1906	.573	.164	.724	16.184	3.549	21.19	46.4	51.6	100.5	.5	16.3	2.7	7.	225.9
1907	.577	.056	.549	16.887	4.319	22.38	44.3	57.3	92.4	—	16.7	2.1	6.0	218.8
1908	.630	.136	.350	17.178	3.931	22.19	27.9	48.6	92.2	—	16.2	.35	7.3	192.6
1909	.666	.138	.493	14.201	4.220	19.72	40.3	47.8	67.6	—	14.2	.6	6.8	177.3
1910	.571	.279	.690	15.551	6.600	23 69	45.9	64.2	93.7	—	18.1	.17	13.0	235.1

that the country should grow more cotton, and cotton of a better quality. But he must counsel them to have patience. He was quite aware that it was one thing to advise patience in Whitehall and another thing to carry out the advice in Lancashire when the cottages of the workers were half empty. But they had to consider all the facts in their relation to the problem before them.

three or three and a half million bales to nearly five million bales. He was aware that the Indian bales were smaller than the American, but that did not affect the argument.

In the ten years ending 1900 the average export of cotton from India had been 1,300,000 bales, while in the last year the export had been over 2,000,000 bales. That was a remarkable expansion.

He should like to ask as to Egypt. He would like to compare Egypt with India, and Egyptian cotton was not at all like what Mr. Emmott's weaver had said in respect of Surats.—(Laughter.) India wanted a great deal of its own product for its own mills, but Egypt did not. Yet Egypt's contribution to Lancashire's supply was not so much increased as was that of India. He mentioned this to show that there was something more potent than a Government department producing cotton from India.

Something was said about the cotton grower not getting the best price for his product. The fact was that the demand for cotton had increased the price, and the Indian producer had consequently increased his supply by from 30 to 50 per cent. The Government might not be able to do very much to improve the supply of cotton, but he would take care that the Agricultural Department should, as far as he was able to see to it, discover what could be done, and he hoped that whatever could be done might be done as the result of their inquiries. He was not sure how far the Government of India would be wise in establishing buying centers, and he did not think that the Government could send out an army of specialists to instruct the people, who might not desire to carry out the suggestions which were made; but he would endeavor to see what was practicable, and, at any rate, he would promise that what could be done would be done in a sympathetic manner.

The Wool Supply.

The discovery has been made in Europe that cotton is not the only textile material of which the supply is falling behind the demand. The Germans have awakened to the fact that the supply of wool is inadequate to meet the demand, and an organization has been formed to promote the growing of wool in German colonies. The conditions which led to this action, and the plans for increasing the wool supply are outlined as follows by the "Zeitschrift fuer die gesamte Textil-Industrie":

It is well known that the German wool clip has been steadily declining during the last fifty years. In 1870 there were 30,000,000 sheep in Germany, while at the present time there are only 7,500,000. The entire German wool clip is but 26,000,000 pounds and the consumption of wool in German mills amounts to 440,000,000 pounds a year. Germany pays $100,000,000 a year for foreign wool, so that we depend on foreign countries not only for the supply of cotton, but also for nearly all the wool we use. It is, therefore, a cause of gratification that men have been found to undertake the extension of wool growing in our colonies in order to prevent a wool famine. This work is in the interest not alone of the textile industry but of German industry in general.

The plans for furthering the growing of German wool are based on sound business principles and backed by ample financial resources. It is pointed out that the consumption of wool is constantly increasing. Although Australia and the Argentine have heretofore produced an ample supply of wool, yet it must be borne in mind that unforseen events may interfere with their wool production. "The wise man builds in time." In order to provide necessary means for doing the necessary preliminary work of establishing wool growing in the German colonies, a wool growing syndicate has recently been formed in Berlin, the plan being

EXPORTS AND IMPORTS OF RAW COTTON AND WASTE.

Lbs. in units of one million. Value in units of $100,000.

Year Ending June 30	Exports.									Imports.				
	Sea Island.		Other.		Total.			Cotton Waste.		Raw Cotton.			Cotton Waste.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Value. per lb.	Lbs.	Value.	Lbs.	Value.	Value per lb	Lbs.	Value.
1890	9	23	2462	2486	2471	2509	10.15	..	..	8.6	13.9	16.16	..	..
1891	14	31	2893	2876	2907	2907	10.00	..	..	20.9	28.2	13.49	..	..
1892	19	16	2926	2568	2945	2584	8.77	..	..	28.7	32.1	11.18	..	..
1893	8	17	2204	1870	2212	1887	8.53	..	..	43.4	46.9	10.80	1.9	.8
1894	14	29	2669	2080	2683	2109	7.82	..	..	27.7	30	10.83	2.7	.9
1895	15	28	3502	2021	3517	2049	5.82	..	..	49.3	47	9.53	2.9	1
1896	19	38	2316	1862	2335	1900	8.13	..	..	55.3	66	11.93	6	2.1
1897	21	41	3082	2268	3103	2309	7.12	..	.	51.9	59	11.36	5.3	1.7
1898	16	28	3834	2277	3850	2304	5.98	19.1	7.9	52.7	50	9.48	6.7	1.5
1899	14	24	3759	2072	3773	2096	5.55	21.1	8.3	50.2	50.1	9.98	6	2.1
1900	18	30	3082	2388	3100	2418	7.80	38.6	17.7	67.4	79.6	11.81	7.9	2.4
1901	11	22	3320	3137	3331	3137	9.41	50.6	26.3	47.0	68.0	14.46	6.3	1.9
1902	12	24	3488	2881	3500	2906	8.30	42.9	16.4	98.17	117.1	11.89	14.3	5.0
1903	20	40	3522	3121	3543	3161	8.92	49.1	21.7	75.40	109.7	14.41	23.2	8.0
1904	13	31	3049	3676	3062	3707	12.01	52.7	28.2	48.84	85.4	17.47	20.8	8.4
1905	16	33	4288	3765	4304	3799	8.82	53.9	24.7	60.5	94.1	15.57	24.3	12.4
1906	16	33	3617	3977	3634	4010	11.03	37.8	18.5	70.9	108.8	15.33	26	13.6
1907	7	20	4519	4800	4524	4820	10.65	46.0	23.6	104.7	199.3	19.03	22.9	10.4
1908	12	33	3804	4344	3816	4377	11.47	45.8	26.8	71.0	141.7	19.96	10.7	4.45
1909	10	20	4438	4153	4448	4174	9.36	41.8	21.3	86.5	136.2	15.74	28.9	12.2
1910	11	32	3195	4472	3206	4504	14.4	54.3	31.2	86.	158.1	18.3	35.7	15.79

to promote wool growing on a large scale in German South West Africa, German East Africa and Morocco. The program provides a capital of $750,000 for South West Africa and $75,000 for East Africa. This enterprise should be encouraged in every possible way by the German wool manufacturing industry. Mr. Kuelz, a member of the colonial wool growing syndicate, states that while it is not expected the colonial supply will be sufficient to meet the requirements of the German mills, yet it will be large enough to have an influence on the world prices for wool.

International Organization in the Wool Trade.

The committee representing wool growers, dealers and manufacturers, which was organized some time ago at Bradford, Eng., for the purpose of improving the packing of wool, met last month at London. It was stated at this meeting that there had already been a marked improvement in the packing of wool, although much yet remained to be accomplished. A letter from the Union de Filateurs Francais was read, inviting the British committee to unite with the French organization in bringing about a wool conference at the Roubaix Exposition in 1911. This suggestion met with general approval and it was decided to invite the Union to appoint a representative to join the British committee. Complaint was made as to the bad condition of South American wool as regards the tying of the fleeces and a circular letter on the subject is to be sent to the trade interested in South American wool. The British committee is engaged in an important work, which can be advantageously extended to include all questions of common interest to the wool trade.

It is a work in which the American wool and wool manufacturing trade can take part with advantage. Not only the packing of the fleeces, but the growing of wool deserves earnest attention. The increasing demand for wool combined with the practically stationary supply makes the wool supply an urgent question, and it is to be hoped that from the small beginning at Bradford a business like and efficient international organization may develop.

EVENTS OF INTEREST IN THE TEXTILE TRADE.

July 20. Announcement is made that the attempt to bring about a short time schedule in the Austrian cotton mills has failed and each mill is left to adjust the running time to suit its special business situation.

July 27. A large deputation from the International Cotton Federation call on Lord Morley, secretary for India, to urge that the Government assist in increasing the quantity and improving the quality of India cotton.

EXPORTS AND IMPORTS OF MANUFACTURED COTTONS.

Value in units of $100,000.

Year Ending June 30	Exports — Value.					Imports — Value.							
	Colored.	Uncolored.	Apparel.	Other.	Total.	Colored.	Uncolored	Apparel	Laces, etc.	Thread.	Knit Goods.	Other.	Total.
1890	29	55	2	14	100	33.7	1.3	3.4	114.5	9	71.5	65.8	299.2
1891	26	93	3	15	137	42.4	1.7	12	105.9	8.6	67.4	59.3	297.3
1892	25	87	4	16	132	45	1.4	12.6	112.5	6.6	58.3	46.7	283.1
1893	8	63	5	22	118	55.4	2.6	16.8	127.4	7.6	68.9	61.8	335.5
1894	38	76	5	24	143	33.8	1	16.6	80.3	3.3	43.6	45	223.5
1895	35	70	5	28	138	54.3	1.3	27.7	116.9	6.6	65.4	59.9	332
1896	14	95	7	32	168	49.2	1.8	26.8	108.8	8.7	61.9	67.1	324.3
1897	18	125	9	29	211	44	2.7	26.3	125.7	6.5	56	83	344.2
1898	41	93	9	25	167	53.1	1.2	10.5	117.7	6.9	40.3	42.9	272.6
1899	52	138	13	30	233	66.5	1.1	10.3	145.5	8.5	43.4	45.3	320.6
1900	48	132	16	37	233	81.6	3.6	12.4	192.1	21	47.2	55.3	413.2
1901	66	76	17	33	192	59.2	2.0	15.3	202.3	17.5	55.0	51.4	402.7
1902	74	185	20	34	313	69.3	.9	16.5	224.5	19.2	53.6	60.4	444.4
1903	84	169	26	30	309	90.1	1.5	22.5	251.1	24.2	61.6	73.6	524.6
1904	54	92	27	34	207	81.4	1.5	25.0	248.4	22.6	60.4	55.6	494.9
1905	73	339	34	35	496	77.9	1.5	23.8	259.1	22	61.5	43.2	409.7
1906	69	363	43	36	510	117.2	2.1	29.1	340.2	26	72.2	43.5	630.3
1907	75	136	47	35	293	127.2	2.8	37.7	397.5	35.8	86.7	39.4	727.1
1908	58	84	47	31	271	120.8	3 4	41 9	346.1	39.2	90.3	52.	683.7
1909	72	145	10	70	297	99.	2.9	27.2	343.7	33.1	69.2	45	620.1
1910	85	113	57	41	296	84.	5.8	38.6	368.2	43.1	64.6	55.3	664.7

July 30. The London series of wool sales close, prices having been well maintained, although showing an indication to decline toward the last.

August 1. Various New England cotton mills have recently shipped and sold large quantities of cotton at New York because of the high price prevailing.

August 1. Practically all lines of men's wear were opened at this date, nearly a month late. The business is unsatisfactory in spite of the lower prices, clothiers ordering in small quantities.

August 6. Collector Loeb issued an order that after August 15 all dry goods falsely marked as to measurement will not be admitted at the port of New York. The order includes everything from lace curtains to shoe laces.

August 6. The County Council of Lancashire vote to place at the disposal of the British Cotton Growing Association the sum of $50,000, being the amount standing to the credit of the coronation fund after $2,500 had been contributed for the furnishing of a sanitarium for consumptives near Ramsbottom.

August 10. The Hotel Wentworth, Newcastle, near Portsmouth, N. H., has been selected for the autumn meeting of the National Association of Cotton Manufacturers.

August 19. A joint selling agency in the North and in the South has been arranged by several of the leading cotton machine builders, which will enable them to furnish complete equipments for cotton spinning mills. The builders in this agreement include Potter & Johnston Co., who now builds pickers and openers and who will soon build revolving flat cards, the Woonsocket Machine & Press Co., who supply the roving machinery, and the Fales & Jenckes Machine Co. who build the spinning frames. Nasmith combers are to be supplied with a complete combing equipment if desired.

August 22. A strike of laborers, mostly Italians employed upon the construction work of the new mills under way at New Bedford, has held up the work to some extent and resulted in some disorder.

August 26. The exporters of textile goods in Great Britain, France and Germany organize to enter a protest against the circular of instruction from the United States Government requiring the deposit at the nearest American consulate of two specimens of each class of goods entered for export to America.

August 29. President Taft makes public a letter dated August 20 to Chairman William B. McKinley of the Republican Congressional Committee, in which the President advocates the creation of a tariff commission and a revision of the tariff one schedule at a time as rapidly as the necessary information is obtained.

August 30. Short covering forces the price of August cotton at New York to 19 3/4 cents, the highest since 1874. Other cotton markets in the United States and abroad were but little affected by the operations of the New York speculators.

THE SITUATION IN THE GERMAN COTTON INDUSTRY.

By HEINRICH SEMLINGER, Mill Manager.

(Translated from the German by the Editor of the Textile World Record.)

No improvement has taken place in the German cotton trade since the close of 1909, when I called attention to the growing seriousness of the business situation. On the contrary, a dark cloud has overspread the business sky and what I predicted in speaking to my friends at the beginning of the year 1909 is being experienced: that a change for the better was to be expected only when the situation became for us as bad as it was good in the prosperous years of 1907 and 1908. The situation in this respect leaves little to be desired, since at the present time the price obtained for yarn and cloth barely covers the cost of the material used. The losses now being suffered by users of cotton are mounting to serious proportions and all are realizing that if the urgent efforts made last winter to put a gen-

eral short-time schedule into force had succeeded, the situation now would be much better than it actually is. The expectation on the part of certain manufacturers that by purchasing raw material at a low price, or by obtaining a large production in their mills they could escape the threatened dangers, has not been realized in any case. The few manufacturers who thwarted the plan to bring about general short time, have found themselves as well as others drawn into the abyss, sinking deeper month by month, although perhaps somewhat behind their competitors who have run on short time.

The following schedule showing the course of prices for cotton yarn and cloth and the resulting margin for the spinner gives a better view of the situation than any words can do. The margin is the difference between the price of cotton at Bremen and the price of the yarn and no account is taken of the loss of 10 to 12 per cent. in manufacturing:

Date	Middling American at Bremen Per Lb.	36s–42s Yarn Price Per Lb.	36s–42s Yarn Margin	20s Yarn Price PerLb.	20s Yarn Margin	48/46 Thread PrintCloth Per Yd.
1908						
April 13	$.115	$.244	$.129	$.198	$.083	$.0555
July 6	.124	.220	.096	.174	.05	.0478
Oct. 5	.105	.194	.089	.161	.056	.0429
Dec. 21	.098	.187	.089	.157	.059	.0412
1909						
March 15	.104	.187	.083	.161	.057	.0418
June 21	.122	.198	.076	.172	.05	.0473
July 12	.140	.209	.069	.183	.043	.0506
Sept. 6	.146	.220	.074	.194	.048	.0522
Nov. 2	.162	.242	.08	.211	.049	.0555
Dec. 6	.167	.244	.074	.216	.049	.0555
Dec. 20	.168	.245	.077	.216	.048	.0555
1910						
Feb. 21	.162	.247	.085	.218	.056	.0544
March 21	.164	.241	.077	.211	.047	.0533
April 18	.161	.238	.077	.209	.048	.0522
May 9	.165	.234	.069	.207	.042	.0511
June 9	.170	.233	.063	.207	.037	.0500
June 20	.164	.231	.067	.205	.041	.0489
July 11	.162	.227	.065	.200	.038	.0484
Aug. 1	.167	.231	.064	.202	.035	.0495

In addition it should be borne in mind that during a dull market the prices realized for yarn and cloth are usually under the official figures, and as a result the margins shown in the above table are in excess of those obtained by the spinner. If the loss from waste in manufacturing and the cost of freight is deducted from the nominal margin, there remains on the first of August for the German spinner about $.044 per pound on 36s to 42s yarn, and about $.016 per pound for 20s American yarn, to cover the steadily increasing cost of labor, the depreciation of the plant, and the interest on the capital.

In spite of this serious situation there are many who believe that still worse will continue to come until all spinners and weavers unite in reducing their production. I hope, however, that we are now at the lowest point of the depression, regardless of whether the raw cotton market advances or declines, and that a firm resistance to a further decline in prices—the buyers are now talking about $.044 for 46 × 48 print cloth—will bring about the long hoped for improvement. The extraordinary crops, which now seem probable in all parts of the German Empire, should encourage consumers to change their policy and begin purchases in normal volume; all the more because the dealers in cotton yarn and cloth are carrying very small stocks of merchandise.

Practically no one is in a position at the present time to learn how the cotton crop will develop in the next few months and what the course of prices is to be. One fact, however, is as clear as daylight: the last American crop was a failure. It is immaterial whether it amounts to 10 1/4 million or 10 3/4 million bales, it was too small to provide for the fabulous increase in the number of spindles and there must be an extraordinarily large crop in 1910-11 if we are to escape high prices for the raw material. The prospect for such a bumper crop to meet the needs of the spinners has faded away so that we must reckon for the next season on a reduced supply, if not in fact on a positive famine as regards spinable cotton. According to the latest bureau reports the condition of the growing cotton has fallen to 75 1/2 per cent. of the normal crop and all hopes of the bumper crop that we need must be consigned to their graves. Those, and unfortunately there are many, otherwise well informed people who are calculating on a reduction in the price of cotton yarn and cloth, have a bitter disappointment awaiting them.

The prevailing low quotations for fall and winter cotton will soon disappear and the present price for spot cotton will take their place.

The American farmer by organization has become too strong to allow the control of the situation to pass from his hands. A material reduction in the price of cotton is not to be thought of and the course of the market will be directed toward a high level, since the stocks are and will remain exhausted, and the new crop unfortunately is 14 days late.

Egyptian cotton has made remarkable advances in the past six months and there was a time at the end of March when the price of good fair Mit Afifi reached 29 cents; that is more than double the average price for the past 25 years. It is necessary, however, to go back a century in order to find such quotations as we are facing today. Last year's crop was unusually small and it is noteworthy that in October, 1909, at a time when the cotton was ready to pick, predictions were freely made that the crop would be large. Like a flash of lightning from a clear sky came the astounding news that in place of the 6 1/2 million cantars, only 5 million cantars at the most was to be expected. This decrease was explained by the fact that, in contrast to previous years, there had been too great a rain fall on the cotton fields. The raw material requirements of the many mills running on Egyptian yarn in England were supplied only with the greatest difficulty, since the crop was not only much smaller but much inferior in quality.

The hard experiences in the year 1910 will remain long in the memories of the spinners of fine yarn. The only consolation to be extracted from the present deplorable situation is that outside of Germany there is no cotton manufacturing country which is not suffering under like conditions. In whatever direction we turn we find the cotton industry in distress, particularly in American, English, Austrian and Italian mills.

In all countries circumstances have forced the manufacturers to withdraw all objections to short time. In England the spinners of 32s ring spun yarn have a margin of 4.6 cents to cover cost of manufacturing, as compared with 5.14 cents last year, 5.76 cents in July, 1908, and 8.18 cents in July, 1907. These conditions are practically the same as those prevailing in Germany.

POSTPONEMENT.

The National Association of Wool Manufacturers make the following announcement:

"The annual banquet of the National Association of Wool Manufacturers, which was set for September 14, 1910, at the Hotel Somerset, Boston, has been postponed to February 1, 1911, the day of the annual business meeting of the Association. One of the chief guests and speakers at the banquet as set for September 14th was Hon. James S. Sherman, Vice-President of the United States, the others being Senator Francis E. Warren of Wyoming and Senator Henry Cabot Lodge of Massachusetts. A few days ago Vice-President Sherman wrote that because of the political complications in his own State of New York and of pressure upon him to engage in the Congressional campaign in the West, he was regretfully compelled to cancel his engagement in Boston for September. Senator Warren could not conveniently come East at a later date this autumn, and, therefore, it seemed best to postpone the banquet until February 1, when it will be held at the Somerset with a distinguished group of guests and speakers."

THE NATIONAL ASSOCIATION OF COTTON MANUFACTURERS.

The 89th semiannual meeting of this association will be held at Hotel Wentworth, at Newcastle, near Portsmouth, N. H., on Sept. 15 to 17. The association will be welcomed to Portsmouth by Mayor Adams. The program of the proceedings includes the reading of papers on the following subjects:

A New Textile.
California Cotton.
Cotton Mills in Mexico.

Economical Lubrication.
Economizers and Draft.
Foreign Markets for Cotton Textiles.
Illuminating Engineering.
Moisture in Cotton.
Natural and Artificial Draft:—Relative Advantages and Limitations of Each.
Nature and Cause of Waste Fiber in Cotton Mills.
Part Time Instruction for the Textile Industry.
Producer Gas Engines.
Purification of water for Mill Purposes.
Renaissance of the Water Fall.
Rewinding of Weft Yarn.
Russian Turkestan and its Products.
Textile Industry in Hungary.

A special train of Pullman cars will leave the North Station, Boston, at 1.15 p. m., on Thursday, September 15, due at Portsmouth at 2.45 p. m., whence conveyances will bring the party to Hotel Wentworth by about 3.30 p. m.

Lunch will be served on the cars immediately after leaving Boston.

The party returning on Saturday, September 17, will leave Hotel Wentworth, at 1.15 p. m., and Portsmouth, at 1.45 p. m., arriving in Boston at about 3.30 p. m.

Passengers from the following prominent stations can take regular trains subject to later changes in the schedules as follows:—

Lowell, via Newburyport,	12.05 Noon.
South Lawrence, via Newburyport,	12.45 Noon.
Manchester, N. H.,	11.10 a. m.
Nashua (Union Station) going via Manchester,	10.17 a. m.
Portland, Me.,	1.35 p. m.
Lewiston, Me.,	10.33 a. m.

Passengers from Worcester, Fall River, New Bedford, Adams and Springfield, Mass., also Providence, R. I., New London, Conn., New York City, Albany and Utica, N. Y., Philadelphia, Pa., Baltimore, Md., and Charlotte, N. C., had better go via Boston, arriving in this city in time to connect with the special train.

The cost of tickets covering round trip railroad fare from Boston to Portsmouth and return; transfer of passenger and baggage between Portsmouth and Hotel Wentworth; parlor car seats from Boston to Portsmouth and from Portsmouth to Boston; lunch en route going; care of baggage, board at the Hotel Wentworth commencing with dinner Thursday, September 15, and ending after lunch Saturday, September 17, will be $13.25 per passenger.

THE TARIFF ON COTTON GOODS.

A Statement by Walter H. Langshaw, President of the Dartmouth Mfg. Corporation, New Bedford, Mass.

The evident dissatisfaction with the Payne-Aldrich bill, and the scant courtesy shown its opponents at Washington, has created a condition which may prove serious to the Republican party, and to investors in many industries, particularly cotton manufacturers, which have developed under protection.

I am a large investor in the cotton cloth manufacturing and am actively engaged in the business. I have not at any time advocated an advance in tariff rate. On the contrary, I have favored moderate reduction on the entire schedule, believing it would benefit the entire country industrially, financially and morally.

Notwithstanding my convictions and large interest, I have refrained from taking active part during the session of Congress, out of consideration for those of my contemporaries who were in the majority, and who have for years arrogantly assumed that they only were qualified to outline the policy to be pursued.

As a result of their policy, the cotton industry has been made the scapegoat, and placed in a most unfortunate predicament. An absolutely wrong impression prevails of the benefits that accrue to the cotton industry either from the tariff of the Dingley or Payne-Aldrich tariff bill. I therefore present a few facts for the consideration of those interested, particularly Senators Dolliver, Gore and Bristow, and any persons who may have been misled by the statements of the publicity committee of importers of dry goods and the pathetic word pictures in the August issue of "World's Work."

I have had forty years' practical experience in cotton manufacturing, covering all branches from erection of buildings and installation of machinery to marketing of product. I am president and general manager of the Dartmouth Manufacturing Corporation and Bristol Manufacturing Corporation, both of New Bedford. The latter corporation, which had formerly lost money, I reoragnized in 1896, and it is now on a dividend basis. The Dartmouth dividends have been sufficiently large to have been commented upon at Washington during the last session of Congress. I manufacture and market annually from five to six million dollars' worth of cotton goods.

I am one of the largest individual investors in mill stocks in this country. That investment was placed with the idea of remaining permanent and for the sole purpose of receiving profits from it as a manufacturing proposition; not profits from commissions for selling its product; therefore, my position is one in common with investors in mill stocks who are looking solely for a satisfactory return from their investment.

Notwithstanding this, I was not invited to the conference which appointed Messrs. Lippitt and MacColl to represent the cotton manufacturing industry. The only reason that I can assign for lack of courtesy in this instance, and many others, is that I am credited with having the courage of my convictions, and with holding views on some matters, particularly the tariff, which are not quite in accord with those of the individuals who comprise the working machine of the Arkwright Club, the Cotton Manufacturers' Association and the Home Market Club.

I was a member of the Cotton Manufacturers' Association for about ten years, yet I was not asked to serve in any official capacity, probably for the same reason that I was not asked to attend the conference which appointed Messrs. Lippitt and MacColl. This association, which originally was a real cotton manufacturing association, is now an association of mill officials, not necessarily owners, and supply men. Its semi-annual meetings are regarded as social outings, but the name is still used by the coterie to suit their purposes.

I was a member of the Arkwright Club, but resigned because of failure of the officials to submit to the members a complete report of money received and expended. I refused to become a member of the Home Market Club because I considered the literature put out by that association so crude and its purpose so apparent as to disgust any intelligent, fair-minded person.

The profits of the mills in charge of that portion of the clique, who are in the cotton manufacturing business, has not been large enough to warrant their assuming the leadership in any feature of the business. Too much importance has been attached to family and education and not enough to merit, intelligence and experience.

Messrs. Lippitt and MacColl state, in answer to an article in "World's Work," that they did not ask for an increase. This is hardly specific enough. Did they request that it should not be increased? At the time the bill was before Congress, the regular meeting of the Cotton Manufacturers' Association passed a vote endorsing the bill and petitioned Congress to pass the same. This would seem to indicate Messrs. Lippitt and MacColl's attitude. The association named was evidently used as a cat's paw in this instance, as it is fair to assume that there was not over the usual number present during the discussion which on most occasions does not equal 5 per cent. of the total membership.

Recent evidence would seem to indicate that the special favors in the cotton schedule desired by Messrs. Lippitt and MacColl were sufficient to induce them to permit the cotton schedule to serve as a cloak to cover up the increase in rates on other commodities for the benefit of large combinations, of which apparently the rubber trust was one.

The claim of Messrs. Lippitt and MacColl that they did not ask for a raise in the tariff, the bombastic eloquence of Speaker Cannon, and the sneers of Senator Aldrich will hardly serve to draw the attention of the public from the main point, which is that the tariff has been advanced, although it had been stated by those in authority that the revision was to be on a lower basis.

The following is an extract from an editorial in a textile journal ("Fibre and Fabric"), evidently inspired:

"Democrats and everyone out of joint with the progressive growth of American cotton manufacturing are getting blue in the face shouting about the iniquity of Messrs. MacColl and Lippitt in fixing up the cotton schedule. Whom do the half million operatives in New England want to look after their interests? Do they want foreign competitors to fix the tariff rates so that America can become a dumping ground for the pauper labor of foreign countries?

"With all the shouting against the textile schedules, not a man opposed to the present arrangement even offers a plan of revision covering the whole schedule."

In answer to this I do not think it will be necessary to call upon foreign competitors to make up a cotton tariff schedule when Messrs. Lippitt and MacColl retire from the lime light. Neither is there anything remarkable in the fact that a man opposed to the present schedule does not offer a new and complete plan. There are only a few with conceit enough to do this, and we have had an example of their work. A committee comprised of mill owners and men actively engaged in the business could easily make up a schedule that would provide ample protection and would not create serious opposition from any section of the country.

As to the protection to the American laborer, and America becoming a dumping ground for pauper labor, this is an old and overworked cry.

No tariff can be devised that will protect the workingman that admits free the class of emigration which is now coming to this country. The American laborer in New England possesses more intelligence than he is ordinarily credited with by people who attach too much importance to education, and this is a feature that will have to be reckoned with.

I am alarmed at the boldness and unscrupulousness of the party machine, and the crude arguments in pamphlets and newspapers, evidently inspired, which are offered in support of their policy, and if better judgment is not shown, a radical change is likely to take place and result in a serious depreciation of values, particularly in the cotton manufacturing industry, which requires nearly twice as much capital to equip and operate a plant as it does in England; and pays 45 per cent. duty on all its imported machinery with the cost of importance added, which is equal to about 55 per cent. difference between cost of machinery erected in New England and this country.

A recent statement in "Fibre and Fabric," probably supplied by the Arkwright Club, compared the capital of New England mills with their actual value, evidently for the purpose of showing the injustice of figuring the rate of dividends on the capital as a fair comparison, but it is a fact that the capital would nearly cover the value of the plants in England or in this country under free trade, and I would like to ask Messrs. Lippjtt and MacColl, or any member of the "stand pat" aggregation, how we are to avoid shrinkage of 40 to 50 per cent. in valuation when all the powers that have manipulated the tariff of recent years, have, like Mr. Carnegie, converted their stocks into bonds, and following his conversion, becomes imbued with the advantages of free trade.

I am a Republican and a protectionist. I object to the word insurgent. It has become a fashion for coteries in control to copy the methods of one Barabas, and raise a hue and cry against any individual in a minority, who ventures to assert himself. By their process of reasoning, George Washington would have been a rebel, and the grounds on which many of these individuals assume to control, would cause a disciple of divine right rule to turn green with envy. The idea of revision and division is well illustrated in the Latin fable entitled, "Might Makes Right":

"A lion, a horse, a goat and a fox formed a society. When they had caught a large stag, the lion divided it into four parts and then addressed the other members of the society as follows: The first part is mine because the Lion is King of the animals. The second part is mine because my labors were so great. The third part I claim because my hunger is greater than yours, and if anybody claims the fourth part he will be my enemy."

I believe that protection was absolutely necessary for the development and is necessary for the continued success of some, if not all of our industries, but, if after years of experience and protection, an industry claims to still require as much or more protection than it did in its infancy, it is not good political economy to continue it.

I recently received a letter asking my opinion as to the merits of lace manufacturing as a proposition for investment. Mention was made of the fact that machines were of foreign make, and that there was no duty at present, but that under the Payne-Aldrich tariff bill, a duty would have to be paid on all importations after April, 1911. My reply was as follows:

"July 11, 1910.

"Dear Sir: Your favor of the 6th, at hand. I am not sufficiently acquainted with the manufacturing or marketing of lace goods to give an intelligent opinion as to its merits as a business proposition. I cannot understand, and I would be interested in a statement from the 'stand pat' element, or some of the shining lights in the Home Market Club, which could explain the reason for the special favor to lace manufacturers. It seems to me a direct attempt to create a monopoly.

"As a business man I certainly should not recommend anyone to invest money in an enterprise which depends entirely or in a measure on the manipulations of the tariff. The asinine policy pursued by those who presume to manage this feature of our politics in New England has at last placed the entire cotton industry in an unfortunate predicament.

"Yours truly,

"W. H. Langshaw."

As evidence of my desire to have a more conciliatory policy pursued, I submit the following:

In September, 1904, Mr. William Whitman, during a telephone conversation, asked me to give him the detail costs of manufacturing yarns for the use of Senator Aldrich. After considering the matter, I wrote him the following:

"Since the telephone conversation with you in which you stated you would like to have me give you the cost of such numbers of yarns for the use of Senator Aldrich, I have been absent in New York, but have thought the matter over, and would rather be excused from going into same on the lines you mention, particularly at this time.

"While Senator Aldrich is undoubtedly a man of wide information on the tariff question, I, for my part, do not consider the present tariff an equitable one to the cotton manufacturer.

"When we are able to export goods in quantities, when our home market is glutted at a lower price than we sell them for in this country, we shall be in a good condition. But I do not think we shall ever attain this under the present tariff,

nor under any process that involves the raising of the tariff on any article."

"New York, Sept. 13, 1904.

"Mr. W. H. Langshaw, Dartmouth Mfg. Corp., New Bedford, Mass.

"Dear Sir: Your letter of the 10th, inst., has been forwarded to me here. I am sorry that you prefer not to give the information asked for. It is evident from your letter that you have misunderstood the purpose for which it was asked. I had felt in asking you to furnish the information that I was paying you a compliment, and I feel that it is important always to one's influence to have confidential relations with men occupying so distinguished a position as the Senator from Rhode Island. I shall readily obtain the information elsewhere.

"Very truly yours,

(Signed) "Wm. Whitman."

At this time (January, 1909), reference has been made to the large dividends of the Dartmouth Manufacturing Corporation, and again at Washington during the tariff discussion. I understand that Senator Lodge telegraphed to Henry F. Lippitt for information regarding the Dartmouth dividends. Senator Lodge can probably explain why it was necessary for a Massachusetts senator to send to Rhode Island for information concerning a corporation in his own state.

In 1909, the following comment appeared in a New Bedford newspaper:

"It is safe to say that there are mills in New Bedford making fine cotton goods of plain construction that are now able to compete with England in Manchester with all freights paid. When it is remembered that this is the fact, even after 35 per cent. has been paid on part of the machinery, and wages in money approximating 35 per cent. more is paid to New Bedford operatives there should be no serious alarm felt if it is finally decided to reduce some part of the prohibitive duty now imposed."

My reply to this at the time was as follows:

"I aver that this is absolutely contrary to the facts. I am not a 'stand patter,' and my views on the tariff do not accord with many of my contemporaries, neither do I believe in the policy that is pursued as indicated by the testimony recently made in Washington. On the contrary, I believe that a moderate reduction of the tariff intelligently applied would be beneficial, rather than detrimental, to the industrial and commercial development of this country, and as a cotton manufacturer am ready to stand my share of the reduction, although in a number of instances, the present tariff should be maintained, and in very few instances had better be advanced, and in this connection I want to make one point, and that is that the competition in the cotton manufacturing industry is so keen, that it will prevent any prices being maintained that would not be on a parity with general values in this country. In other words, monopoly is entirely eliminated, and I know of no fabric manufactured in New Bedford figured on the lowest scale of wages that has existed since the passing of the Dingley bill that can be produced anywhere near the same cost as abroad.

"Furthermore, if a low tariff does not reduce the cost of living, what advantage is there in the reduction, and if it reduces the cost of living, what advantage is it to the industrial development of the country, if the wages paid are to be the same? These are a few questions which have quite a bearing on other parts of your article."

Statements made for the purpose of creating the impression that the cotton manufacturing industry is unduly benefited by the Payne-Aldrich or the Dingley tariff bill, are absurd. They are based chiefly on the assumption:

First: That the dividends paid one year by a number of corporations, or the dividends paid by a few corporations for a number of years, is due to the tariff. Particular mention has been made of the Dartmouth Manufacturing Corporation.

In answer to this I would say that for every mill that has made large profits, a mill can be found with almost, if not entirely, the same equipment, that has passed dividends entirely, and many that have not returned 6 per cent. Dartmouth success is no more due to the tariff than was the appointment of a receiver for Arnold Print Works, or the loss to shareholders in the New England Cotton Yarn Co., a few years ago, and there is no mill that has made as large a percentage on capital invested as have some converters, and possibly importers in New York, while some converters have failed and others have gone out of business. Personal equation accounts for the difference in every instance.

Second: That the increased cost of living is due to profits in cotton manufacturing. What are the facts?

New Bedford mills do not average one cent per yard profit. The total dividends paid by Dartmouth do not equal one cent per yard, which is equivalent to one cent in an apron, two cents on most under-garments, 3 1/2 cents on a shirt, 14 cents on a suit. Plain aprons vary in price from 25 cents to $1.50. The difference in price of the fabric to the mill would certainly not exceed 5 cents and possibly not 2 cents. The largest profits that I ever heard of being made on cotton cloth in the piece, was on a fabric imported at about 35 cents per yard, which I understand was sold over retail counters, in limited quantities, at $1.50 per yard. Note this was imported. Messrs. Lippitt and MacColl are correct in their statement that, while cotton has been higher in recent years, goods have been lower; so low that many mills preferred to stop, and others sold cotton at a larger profit than ever was made in manufacturing.

Third: The Importers' Publicity Committee made special mention of Jacquards, and attempted to give the impression of large profits.

Dartmouth installed Jacquard looms a number of years ago, and managed by cooperating with a converting house, to successfully, for the first time, produce a satisfactory fabric that was substituted for the imported article, at a lower price, which was certainly a benefit to the consumer in this country, and this accounts for the activity of some importers whose interests are not identical with those of the consumers or investors in this country. The Dartmouth has had Jacquards stopped over three months since the Payne-Aldrich bill was passed, and many of those that have been run barely paid expenses. In fact, profits on fine cotton goods in general will not exceed the profit which would have been made by disposing of the cotton.

In the closing paragraph of the answer of Senator Aldrich to Senator Bristow, he states that:

"In tariff discussions of other days, the advocates of the protective policy have usually been called to meet in debate, men with convictions on this subject."

In the last paragraph, referring to those whom he pleased to call insurgents, he says:

"Strangely enough this little group of men, very small in number, has arrogated to itself the leadership of the progressive, and its members prate about the treatment of the tariff as a moral question."

The trouble now is, as compared with "other days," that the Republican party is run by a machine, comprised of men whose chief interest is to serve their own ends and not the common weal, and men with convictions different from the machine are not wanted. There is no sincere attempt made to get at the real truth. The big machine, like an octopus, has its tentacles reaching out, comprised of men who for political favors are willing to be subservient to the main body. The routine and line of offices is laid out, and we are accustomed to hear, "We will now listen to a few remarks from our next representative, senator, governor, etc.," and the gang applauds. Offices are sought by men who have no intention of applying the principles which they profess to believe. The principles and doctrines of the Pilgrims are regarded as beautiful in the abstract, but not practical in the concrete.

I believe the tariff is a moral question. The impression that prevails at large that it is a game of graft, that its manipulations have contributed to produce in a short time, the largest fortunes known in modern times, has corrupted the moral fiber of citizenship in this country. Patriotism is at a low ebb, and the definition of a patriot now, is one who is ready to fight a foreign enemy, but the higher type of patriotism is that which is ready at all times to fight for principle and the maintenance of truth.

New Bedford, Mass., Aug. 16, 1910.

WOOL GROWING IN NEW ZEALAND.

By SAM WOOD, Instructor in Wool Classing to the Technical Schools throughout Hawke's Bay and Wairarapa Provinces in the North Island of New Zealand.

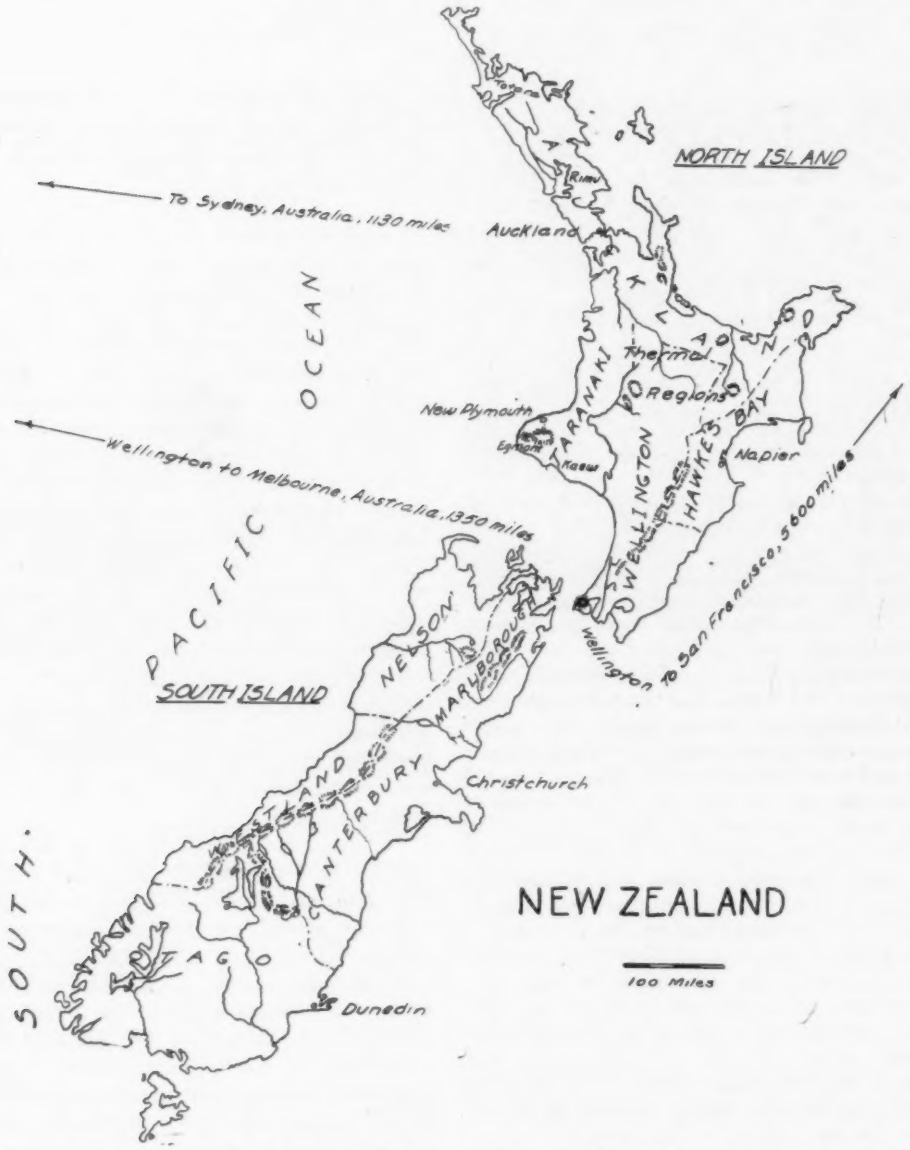
PRIMEVAL NEW ZEALAND.

The commercial age of New Zealand has not yet reached a century. After the subjugation of the Maori, who is not quite certain whence he came, though legend says he paddled his canoe from out of the wide expanse of the eastern horizon and landed near where the site of the city of Auckland, the pioneer Pakeha (Englishman) set to work to colonize his new possession. Forests covered practically the whole surface of the land. The pioneers with axe and fire made clearings in the bush, and built villages there. The colony endured many hardships during the early days of colonization, but so rapid has its progress been that it is now no longer the "Colony" but the "Dominion" of New Zealand—three little islands with a number of outlying specks possessing a government, climate, mineral, agricultural and pastoral resources nowhere to be equalled within the same compass in any other portion of the globe.

It is not the intention here to tell of how the miner delves in the hills and sluices in the valleys to obtain gold, nor of the hewing and sawing of the timber king, who has waged war on the great Kauri, Rimu, Totara and Rata forests, nor of the milking, butter and cheese-making that is carried on now in Taranaki under the shade of Mount Egmont, that silent beauty whose red volcanic fires once lighted up the Plain beneath where Englishman and Maori fought fifty years ago for supremacy, nor of the groaning stripper which wrests the hemp from the beautiful native flax, but to sketch the birth, growth and present day conditions of one of the Dominion's greatest products, wool.

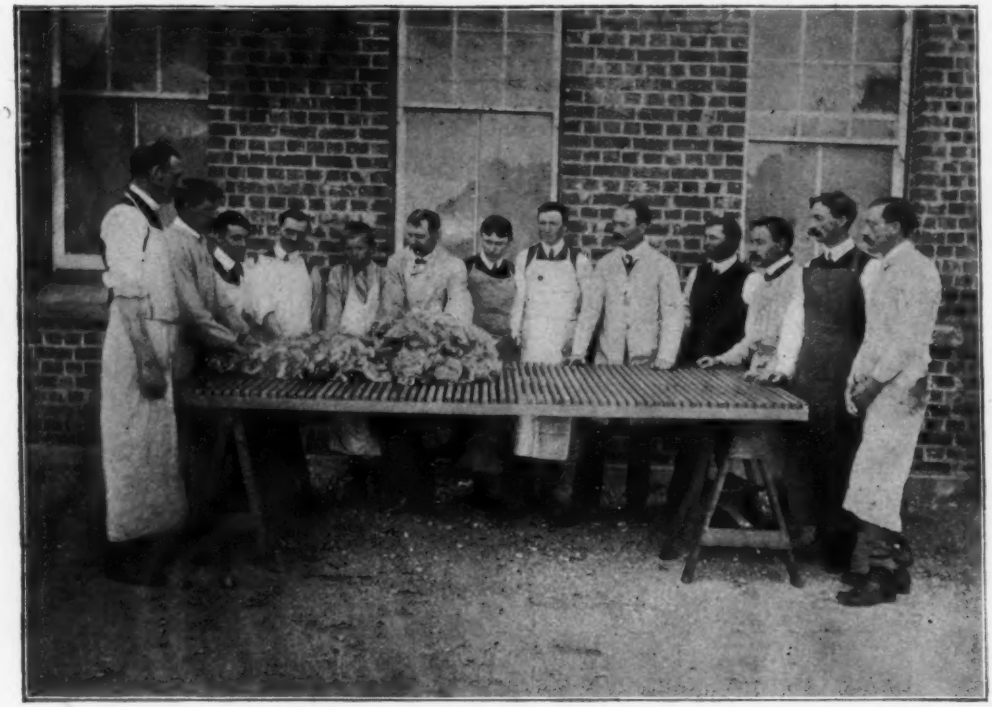
THE ORIGIN OF CROSSBREEDING IN SHEEP IN NEW ZEALAND.

About half a century ago there were brought to New Zealand a number of coarse-wooled sheep from Australia. Prior to their advent, however, Australia had also sent across a number of merino sheep. This merino breed did not do well on the rich pastures of the plains. Their feet became so bad with the foot rot that it was found necessary to remove them onto volcanic and hard country, where vegetation was not so plentiful and the disease could be more easily combated. In 1857 a direct importation was made from England of one lot of Romny Marsh and one lot of Cheviot sheep. These hardier and coarser wooled sires were mated with Merino ewes, and thus did



New Zealand crossbreeding get its start. Since that time, however, a careful study of the sheep best suited to the country they farm has resulted in many experiments in crossing various breeds of sheep.

A farmer may own land comprising hills of a light stony character growing a short, sweet grass. Upon this country he finds that the halfbreeds do best. Consequently he keeps a flock of Merino rams which are mated with Lincoln or Romney-Lincoln cross ewes: the progeny are called halfbreeds, which yield fleeces of great value and which are at present in great demand in the American market. Owing to the Merino strain in this class of sheep, foot rot is prevalent among them. They are not much in demand as "freezers" as they do not fatten readily, nor do they weigh heavily when they are prime. Again the farmer may have heavier hilly country of limestone formation, and hereon he finds that the Romney and the Lincoln or the cross between these two distinct breeds do best. From the Romney-Lincoln sheep he clips good heavy long stapled fleeces, and their lambs when topped off on rape or other succulent green feeds bring him in a good cheque from the freezing companies. The four, six and eight tooth wethers of this cross cannot be excelled as clippers and freezers. They are big, busky sheep spreading a large frame which is covered by a healthy carcase capable of growing the heaviest and best conditioned fleeces, and of producing the heaviest and best graded mutton. This crossbred type is the most favored throughout Hawkes Bay Province, and they have no equal for constitution, condition, wool or mutton, all of which points are essential in a flock that is going to prove a source of income to the farmer. On good, rich, flat country lying back from river bed to hill foot the farmer sows his crops of rape,



NAPIER COLLEGE STUDENTS LEARNING WOOL SORTING.

lucerne, barley, oats, pumpkins, etc., which are used for fattening the lambs, wethers, and the old ewes that are no longer required for breeding purposes. Healthy sheep are soon got ready for freezing on these pastures, and the farmer gets away draft upon draft of fat lambs, fat wethers and fat ewes to the freezing works whose cheques amply compensate him for his labors.

We must not forget to mention the Down sheep, which are farmed principally for the mutton. They doubtless kill into the sweetest and best mutton and are much in demand as freezers. They do not, however, produce a good fleece, and they do not do so well on the hills as the Romney-Lincoln sheep. They are farmed chiefly by the small farmer known as the "cockatoo," who possesses a hundred acres or so of rich, flat land upon which he fattens this breed quickly for the local butchers. To sum up, then, the breed of sheep mostly used in New Zealand—particularly in the sheep country of the North Island—is the Romney-Lincoln cross which give the best value both as regards wool and mutton. In the central portion of the North Island which takes in all that volcanic country surrounding the wonderful thermal regions, the Merino and the halfbreed thrive. Throughout Hawke's Bay on the East, and Manawatu on the West of the North Island down to the capital city, Wellington, the bulk of the farmers' flocks are Romney-Lincoln cross.

In the South Island the rough hills of Marlborough and Nelson support the Merino. Canterbury goes in for English Leicester principally, but also employs other breeds for crossing purposes. In this province the type known as the Corriedale was first bred. Mr. Corriedale, a Canterbury farmer, experimented in crossing the Merino and coarse wooled sheep, and then breeding-in again by recrossing their progeny until he succeeded in evolving a distinct type which was called after the breeder, Corriedale. The Corriedales produce a fleece which has been much sought after by the Americans. They are not a success as freezers, but their mutton is very tender and sweet, and is readily bought by local butchers. This breed has been tried with more or less success on the hills about Hawke's Bay, but they are going out of favor on account of the difficulty in keeping their feet free from foot rot. Further South again in Otago where the snows cover the hills, the

ROMNEY MARSH SHEEP, NEW ZEALAND.

Cheviot and Romney sheep live hardily but exist well.

PIONEER SHEEP FARMING IN NEW ZEALAND.

Sheep farming when in its infancy in New Zealand was carried on in a rough and ready style. The sheep were worked only twice a year, at crutching and shearing time. The shearing sheds were rough structures, and were built without any idea of comfort or of convenience. The wool was shorn by the old fashioned hand blades, and the fleeces were bundled untidily into bags or bales, without any consideration of condition or of quality. Railways did not exist, and roads were uneven tracks. The wool in many cases had to be packed in panniers and

carried on horse back to the seaports to await shipment by sailing vessels to London. Today New Zealand is provided with the best means of handling the wool clip. The shearing machine has supplanted the blades; the expert wool classer handles the fleeces and grades them; the traction engine transports the bales to the railway; the train takes them to the port of shipment; the wool broker receives them into his stores; the purchasers value and buy them; the steamers carry them to America, the Continent or to the United Kingdom, and back returns our wool again in the form of clothing and blankets for our own use.

INSTRUCTION IN WOOL ROLLING AND SKIRTING FLEECES FOR THE AMERICAN MARKET.

THE BIRTH OF WOOL-CLASSING IN NEW ZEALAND.

Notwithstanding all the progress New Zealand has made in the production of wool, it is only within the last year or so that her sheep farmers have turned their attention to the most important part of the business of wool-classing. The large station owner and the small farmer both neglected this all important part of the work, and the get-up of their clips was left for the most part to Maori women and station "roustabouts," who went about the sheds picking up the fleeces and throwing them to the pressers, who stamped them down regardless of quality and grade into the wool bales. This want of method must have resulted in the loss of many thousands of pounds to the growers in the past for the reason that the buyers when valuing such clips, finding high quality and low quality wool mixed together in one heterogeneous mass in the bales, naturally valued each bale on the basis of the lowest quality of fleeces examined; this, of course, to save themselves, although the grower, either through ignorance or the

want of the services of an experienced wool-classer, had to stand the loss.

This went on for a good many years, but as the young colony grew older, the people emigrated from England, a number of wool experts from Bradford found their way to New Zealand. They quickly recognized the losses suffered by the wool growers owing to the bad classing of their clips. They urged the farmers to do away with the old slipshod manner of bundling their fleeces into the bales, and to substitute a systematic classing of the fleeces so as to obtain the fullest possible value for their clips when put upon the market. It was some time before the farmers, who have been rather conservative, could be induced to abandon their old ways. Technical education has made great progress in New Zealand during the past five or six years, and the idea of teaching wool classing and wool sorting found supporters. The first class of the kind was formed in the Napier Technical School last year, under the supervision of the writer, who received his training in wool classing in the shearing sheds of Australia and New Zealand. Interest in the subject was aroused and the students, who formed the classes, were drawn from the ranks of the farmers, the wool auctioneers and their assistants throughout the Province.

The larger station holders supplied to the school the wool that was used in the course of instruction, and the Technical School Board supplied the apparatus asked for by the instructor. The instruction began with the proper handling and manner of picking up fleeces from the floor. The instructor demonstrated how to gather up the fleece and throw it upon the rolling table. He skirted it as deeply as its condition allowed, and rolled it in the following manner: With the flesh side of the fleece down on the table the instructor threw in a little of the britch end and a little of the neck portion of the fleece. Then he took hold of the side furthest from him and brought it towards him in two folds. Lastly he rolled the fleece from britch to neck, and there it was a neat compact parcel showing the best of the fleece and ready to go into the bale selected to hold its class. The students were taught how to treat the pieces and skirtings of the fleeces, and were shown that according to quality, which is detected by eye and touch, these pieces could be classed into "firsts" and "seconds." Papers on the theory of the subject were also prepared and read by the instructor to the pupils.

Wool sorting was taught. The instructor

LINCOLN SHEEP, NEW ZEALAND.

placed a fleece on the table, and showed to the students how the quality of the wool varied in different parts of the fleece. The coarse fiber in the staples at the britch were compared with the finer ones on the sides and neck of the fleeces. The instructor would then sort the fleece by tearing it into its different qualities, according to the Bradford spinning count. In some cases as many as six different qualities could be made from one fleece. After a term of lessons, a great many pieces of various qualities were gathered together, and the students were beginning to show that both eye and touch were improving with the practice they were having. It was interesting to note the progress the majority had made. There were among the number young men who had never handled wool before, and who were, therefore, in complete ignorance of the difference in quality. The students at this stage were becoming quite expert in picking the differ-

ent counts. To familiarize them with the practice, the instructor had wooden trays made, containing different compartments into which the students would sort a pile of pieces given them. These compartments were arranged to hold wool ranging from low crossbred up to Merino, or, expressed in Bradford counts from 28s to 60s quality.

Wool classing was next taken up, and fleeces came to the hands of the instructor, who dealt with them according to quality and condition of the wool. The students noted the points made and saw fleeces of similar characteristics skirted and rolled and placed together in readiness to go into the bales. Meantime the instructor varied his methods by showing the students samples of the tops side by side with the wool in the grease from which they were combed. It was only by steady practice in the handling of wool that the students could hope to become at all expert, and to this end the greater part of the first term was devoted to sorting pieces and classing fleeces. Theory was not overlooked, and in the course of the lessons the instructor was well plied with questions to answer for the edification of the pupils. Great interest was evoked throughout the district, and the local newspapers published the instructor's weekly papers which had been read to the pupils. Other centers throughout Hawkes Bay clamored for wool classing instruction, and classes were formed at various towns where the instructor now gives lessons on different days during the week. As showing the great interests awakened on this important subject, the students expressed a wish to be examined on the theory and practice of classing wool. The Technical School authorities appointed Mr. Wenley, one of the local wool brokers, examiner, and he presented the following theory paper. The writer appends the answer to each question, and the information given covers such a wide area that it has been quite unnecessary to treat specially on these points earlier in this article:

EXAMINATION PAPER AND ANSWERS.

What is the object of wool-classing?

The object of classing wool is to get it up in such a manner that it will appear in the sale room in distinct lots according to quality and condition, and thus enable the buyers to fix their maximum value in the minimum of time.

Why make any difference in classing small farmers' lots and a large clip?

It is not advisable to class a small farmer's clip of a few bales to the same extent as a large clip for the reason that too many sorts will be made for the quantity of wool shorn; consequently "star" or one bale lots and even fadges, sackfuls, might have to be made, and small lots never command the competition in the sale room as large lots do.

Why should wool-classers try to avoid having any lots less than three bales in clips offered in London?

In order to obviate the cataloguing of star lots, which are made up of all lots of three bales and under in the London sale rooms. Star lots are always disposed of at the end of the sale, and seldom command animated competition and attention from the buyers.

Should bales be of even weight: if so, state why, and what should be the average weight per bale?

It is essential that bales be of even weight on account of the expenses, which are at per bale, and also to assist buyers in calculating the weight of the wool they are buying. Furthermore it is an indication—providing a like number of fleeces are pressed into each bale—that the classer is getting together fleeeces about equal in condition. The average weight of each bale should be 3 1/2 cwt. (336 lbs.). The bales should not be made heavier owing to the strain of dumping in the ships' holds, for it must be conceded that the wool never looks so well after coming out of the ships' holds as it did when in the bins of the shearing sheds.

Why do American buyers buy only light conditioned wool?

Because wools (with the exception of carpet wool) imported into America are subject to a heavy duty amounting to 11 or 12 cents per pound. Therefore the lighter the condition of the wool and the freer it is from waste matter the more keen are the American buyers to secure it.

What is meant by condition?

By condition is meant the actual appearance the wool presents to the trained eye of the expert, who judges its value thereby. In other words—its freedom from grease, dirt, vegetable and all extraneous matters, which when scoured out leaves the wool a good deal lighter per original pound than when it was purchased.

Why do buyers dislike tender wool?

Because tender wool will not satisfactorily stand the strain of combing. Bradford and American buyers pass it, but French buyers will buy it because they have machinery in their country which combs it economically.

Why is vegetable matter so objectionable in wool?

Because it costs money to get rid of it. Seeds, burrs, etc., are removed by carbonizing. This process damages the wool more or less. Pieces of string and hairs from the jute packs are so

similar in color to the greasy wool that they become apparent only when the finished fabric is dyed. Burlers then remove them, and this damages the fabric more or less.

What are crimps, serrations, tops, noils and wastes?

Crimps are the undulations in the wool fiber and denote character. Fine wool possesses more crimps than coarse wool. While the finer Merino wools possess about 30 crimps to the inch, only about 5 are found in the Lincoln staple. Serrations are the tooth-like edges on the wool fiber. They may be easily seen under the microscope. It is by means of these serrations that wool is felted. Tops: After the greasy wool has been sorted, scoured and combed, it is done up into large balls of sliver called tops, from which the spinner makes yarns. Noils are the short fibers left after the process of combing. They are used in the manufacture of blankets, carpets, etc. Waste: There is also waste of different kinds in the manufacture of tops, yarns and cloth, quite apart from the noils.

Give a short description of how you would set about classing and despatching to the port 150 bales from a Lincoln and Romney flock, there being some pure Romneys and some pure Lincoln sheep, the remainder being a cross between the two.

We will assume that the classer has selected his men for the various posts in the shed, and that all are at their places. It is difficult to state on paper how one would class such a clip, for local conditions relating to the land on which the flock is pasturing, the climate and the breeding will all have to be considered. The wool from a flock grazing on or about the clean country around Hastings will be very much lighter in condition than the wool from a similar flock pasturing on the high land of Wairoa country. Keeping in mind the fundamental rule of wool classing, which is to make as few lots as possible and to keep them even and distinct, the classer will have to take into consideration the Bradford counts as represented by the spinning qualities, the breaking strain of the fiber, the length of the staple, the condition, the color and the general characteristics of the fleeces. In this flock the Lincoln will throw the coarsest fleeces of about 32s in quality; the Romney, the finest of from 44s to 46s; and the crosses between these two breeds would produce 40s. Consequently it will be advisable to make sorts of fine, medium and coarse qualities, lotted into two of each sort as follows:

A.A. All the lightest conditioned, lustrous, and the most attractive looking fleeces of the finest quality.

A. All the heavier conditioned, duller and less

SHROPSHIRE DOWNS, MASTERTON, NEW ZEALAND.

attractive looking fleeces of the same quality as A.A.

B.B. All the lightest conditioned, lustrous, and most attractive looking fleeces of medium quality.

B. All the heavier conditioned, duller, and less attractive looking fleeces of the quality similar to B.B.

C.C. All the lightest conditioned, lustrous, and most attractive looking fleeces of the coarsest quality.

C. All the heavier conditioned, duller and less attractive looking fleeces of the C.C. quality.

If only a small lot, B. and C. could be merged into one class. There would be a cast lot which would be made up of all the seedy, matted, and kempy fleeces, and fleeces of two years' growth. It will be as well to separate the neck and britch pieces by putting them into different baskets placed at the end of the tables, the pieces to be divided as follows: "First pieces" and "Pieces." The former would include all the best conditioned, bulky and brightest pieces; the latter, all the inferior pieces. Lamb's wool would be put into two lots: "First lambs" and "second lambs." The former would be all the best conditioned, cleanest and longest in staple; the "seconds" being the heavier in condition, shorter and coarser staples. The classer would have to consider the advisability of keeping the wether fleeces separate from the ewes, and would class hogget's wool entirely separate from the rest of the clip. Ram's wool, on account of its coarseness, should be pressed separately. The business of rolling, pressing, sewing, branding, and weighing would all be done under the classer's supervision. Accuracy and care would be required throughout the work.

The students were also required to sort pieces of different qualities into the spinning counts, and to describe orally the quality, condition, appearance, breeding, and general characteristics of various fleeces handled by the examiner.

Most of the pupils passed the examination and several secured a high percentage of marks.

Following upon this examination, the Hawkes Bay Agricultural and Pastoral Association offered a prize of three guineas to the winner of the wool classing competition held at the big show in the spring of the year. About fifty students competed, and the results were of a kind that showed how the pupils had benefited by the instruction.

Shearing time followed and this was the crucial test in the business, for a good many of the students classed their own clips in the way they had been taught. The change in the get-up of well known clips, both large and small, was most marked. Prices realized locally at the sales showed an advance up to three pence per pound compared with previous years, and this after making due allowance for the better tone in the wool market. Returns from the wool sold in the London markets showed an advance of four pence per pound on clips that had been classed according to instruction. This was eminently satisfactory to all concerned in the trade, and several of the leading buyers favorably commented upon the outstanding improvement in the classing of clips that previously had been prepared for sale in a slipshod manner.

SELECTING WOOL IN NEW ZEALAND FOR THE AMERICAN MARKET.

American buyers have competed eagerly at our sales—particularly during last season's series—and have thereby added a zest and a stimulus to the trade which has made itself felt in the actual breeding of the sheep. Light condition wools of the Romney type and Romney cross varieties were bought up wherever offered in New Zealand by the American buyers at highly satisfactory prices to growers. This action of American buyers in the wool sales rooms was reflected among station holders and farmers in the stock yards, for at the big annual ram fair held last February, Romney rams, which were almost unsaleable the previous year, brought enormous prices. Breeders, who thus made such good sales of their stud and flock Romney rams, had really the American wool buyers to thank for the high prices they received.

The New Zealand wool grower's aim at the present time is to produce wools of such quality and condition that they will claim paramount attention from the American buyers at the coming season's sales. To this end he has carefully selected his sires to mate with his ewes, and is giving careful attention to the feed for his flocks and the general farming of them. At shearing time the farmer will look for a classer who has a good knowledge of the American buyers' requirements, and he will have to give due attention to the following points when classing for America: The classer must skirt the fleeces, properly eliminating from them all

vegetable matter, kempy and grey portions, leaving each fleece perfectly free from dirt, fribs, second cuts, etc., and selecting only those fleeces of the flock that are clean, bright and sound in staple. In doing this he must guard against mushy, wasty wool, irregular staples, noily and lean wool, all of which faults indicate weak constitution, bad breeding, or a set back to the animal at some period of its life. If the above be attended to the fleeces selected will be up to a good average standard according to yield, which means simply the clean scoured wool, or, in other words, what the greasy wool will produce in top and noil, as regards quantity, quality, color and length of staple, which should be clean and bold with plenty of body, soft and silky to the touch, showing plenty of crimps and proving elastic when pulled out.

American competition for our wools has also had the good effect of making the farmers in New Zealand manage their flocks more scientifically. The high prices paid for wools suitable for America have put heart into the farmers, and they have tackled their duties with more snap and interest. The height of their ambition is to get a high percentage of fat wether lambs to the freezing companies, and to see the Americans competing eagerly for their clips at the sales. This has given them an incentive to study more carefully the breeding of their flocks, and to attend to their condition throughout the seasons, so that they may guard against a setback.

It is not an uncommon thing here in New Zealand to see our Bradford and Continental wool buyers going through the lots they have purchased at a series of sales and picking out all fleeces suitable to the American trade. They then regrade them and repack them to be put into some buying order which they may be executing on account of an American house. All this unnecessary work on the part of the buyers could have been avoided had the classer known the requirements of the American, as distinguished from the Bradford and Continental trade. Again the speculative wool buyer has done very well in the past with clips badly classed falling into his hands. He buys such clips on the value of the lowest quality fleece in the clip. He then has the whole clip reclassed or regraded into its various qualities and put up for sale again or shipped to the London market. It can easily be seen that he stands to make a large profit on any such badly classed clips falling to his bid. The advent of wool classing by wool experts will mean that this sort of thing will not obtain in the future. The classer worthy of the name will now enter his sheds in future well equipped with all the necessary knowledge of how to select his employer's fleeces. Knowing the requirements and the trend of the various markets, he will see that the clips under his supervision go down to the sale rooms ready for the trained eyes of the American, English and Continental buyers.

THE BRADFORD MARKET.

(By Our Special Correspondent.)

Bradford, Eng., Aug. 27, 1910.

Uncertainty has been left behind and the English worsted and woolen industries are at full tilt with full confidence in themselves and in business at large. If worsted spinners were ever better off for work and better able to buy tops and sell yarn from them at a profit, the time is so long ago that the oldest men in the trade do not remember it.

Most spinners covered the future well before the close of London sales and are making a cent a pound more on yarns out of tops which cost them generally about a cent a pound less than the present quotation. Complaints, therefore, that they are not securing the full advance are more nominal than substantial.

The men's wear trade rather than dress goods is responsible for the great run on worsted yarns, but the dress trade is likely to come later. Bradford worsted dress stuffs are replacing Roubaix amazons in the home trade for next season. The lining business is so good that spinners of 30s single, suitable for weaving Italians, are booked up to March next in some cases.

The demand for fine merino by Huddersfield, Leeds and Halifax worsted makers is unchecked and almost unlimited. The cross-

bred spinners have good Continental orders and a capital home demand. Considering that this is a holiday time the spinners of English sorts have been doing remarkable business.

No wonder then that topmakers preserve a very stiff lip and that even holders of noils begin to see rays of light creeping over the situation. No quotable changes have been made in noils, for the stock is excessively large. Forties noils can be reckoned at 16 to 17 cents and 60s noils at 27 to 30 cents, with a rising tendency due to the high pressure in the tweed trade. Woolen spinners are fast getting into the same predicament over deliveries as the worsted people and noils will rise as the supply shortens.

A matter that has come to light in the last few days may have its interest to potential noil consumers. A list of articles exported with benefit of drawback from the United States is to hand from the British Consul-General, New York. It shows 445,815 pounds of wool noils, valued at $25,091, to have been thus exported (i. e., with rebate of 99 per cent. of the import duty of 20 cents a pound). The period is the fiscal year 1909. Here follow the values of the wool noils exported from the U. S. Consular district of Bradford during calendar years:

1909	$34,918.44
1908	2,959.56
1907	16,597.07

During the fiscal year 1908-9, the noil export from Bradford was $11,778.48; being less than half of the value exported from America under drawback. In this there may be no significance, albeit virtually all the noils produced in England originate in Bradford and the Continent is rather an importer than an exporter of this material.

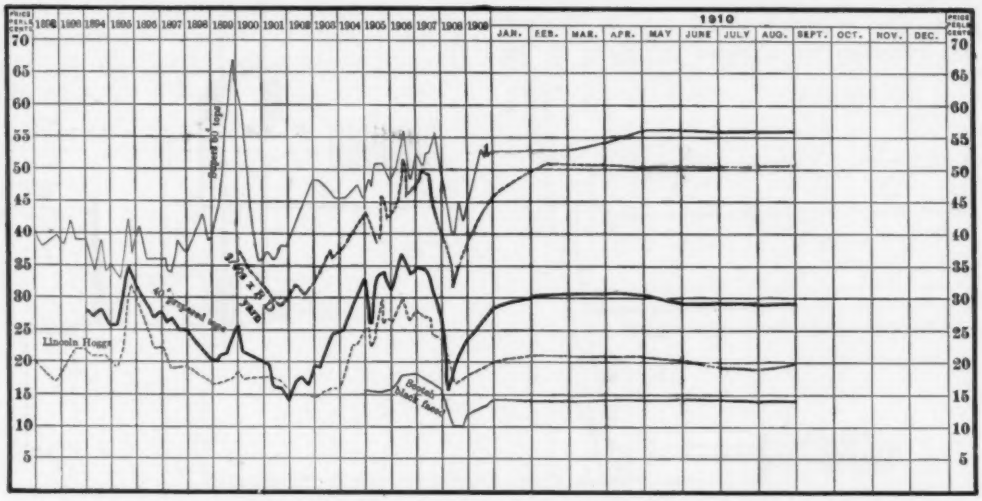


CHART SHOWING COURSE OF PRICES FOR WOOL, TOPS AND WORSTED YARN AT BRADFORD, ENGLAND.

Only about 6 1/2 per cent. of the linen manufacture of the United Kingdom is done in England and Wales.

The value of the wool exported from Argentina to the United States in 1909 amounted to $6,778,944, as compared with $4,209,194 in 1908.

A summary of the report prepared by the Bureau of Labor shows that in 46 New England mills 43.3 per cent. of all the operatives were females over 16 years of age, and that 5.26 were children under 16 years; while in 158 Southern mills, women constituted 27 per cent. of the total, and children 20 per cent. There are about 767 cotton mills, with nearly 12,000,000 spindles and 247,000 looms in the Southern States, including both yarn, weaving and spinning mills.

Correspondence and Notes

UPON TEXTILE TOPICS AT HOME AND ABROAD

RETARDING SPRINGS FOR GILL BOXES.

BY JOHN BROWN.

With the increased speed at which gill boxes are now run, inventors have been busy trying to overcome the jar caused by the fallers dropping from top to bottom screws and so to decrease the wear of the

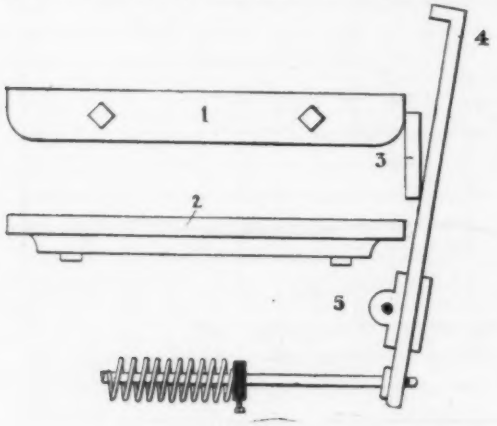


FIG. 1.

bottom saddles and breakage of the fallers.

Fig. 1 shows the ordinary style of retarding spring, working on a stud, S, fastened to box slide, or on a slotted bed-plate. As the time the faller passes the swell part of the top saddle the spring is being thrust

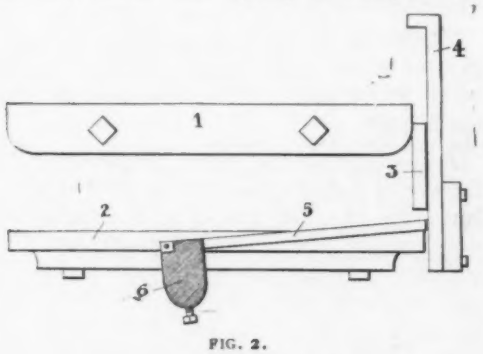


FIG. 2.

away at a more acute angle and the greatest pressure is put on at the bottom edge of the faller.

In case of any wear either on the faller or the saddle end there is a great liability of fallers locking on entering bottom screw.

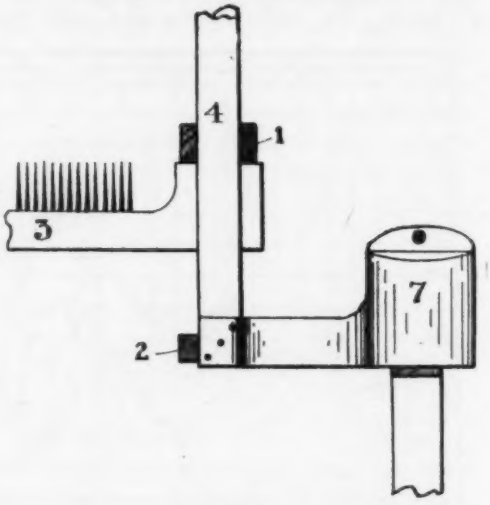


FIG. 3.

The patented hinged retarding spring, shown at Fig. 2, the fallers can, it is claimed, be run up to 1,000 per minute without risk of locking, and in conjunction with the

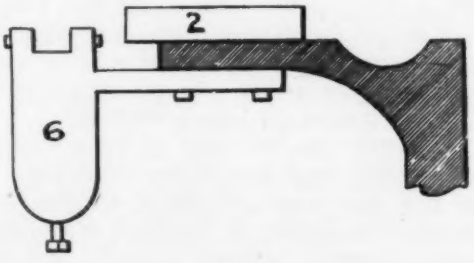


FIG. 4.

swinging retarder with a minimum of wear and tear. Fig. 2 shows the faller in the same position as in Fig. 1, but the retarding spring is perpendicular and bears upon the faller for its entire depth. In all the drawings, Figs. 1 to 5, 1 indicates the top saddle; 2, bottom saddle; 3, faller; 4, front spring; 5, swinging retarder; 6, socket containing

spring which forces the retarder up after the faller begins to travel along the bottom saddle; 7, socket or hinge. The front retarding spring, Fig. 3, is screwed to a casting, 7, which works on a stud fixed to the frame of the box. Although the hinge works very rapidly the spring itself is so far from the stud that there is very little motion on the stud itself.

The device occupies very little room and there is no more danger of coming in contact with the leather sheet or front roller than with the old system.

or drawing purposes. The device is the invention of Jonathan Stevenson, for many years a worsted mill manager.

CARD GRINDING.

(From the Grinding and Mounting of Card Clothing recently published by Dronsfield Bros., Ltd., Oldham, England.)

(Continued from August.)

When "side" grinding, the "side" grinding rings are set into the teeth gradually, running with the spiral of the fillet. When the direction of traverse changes, the roller,

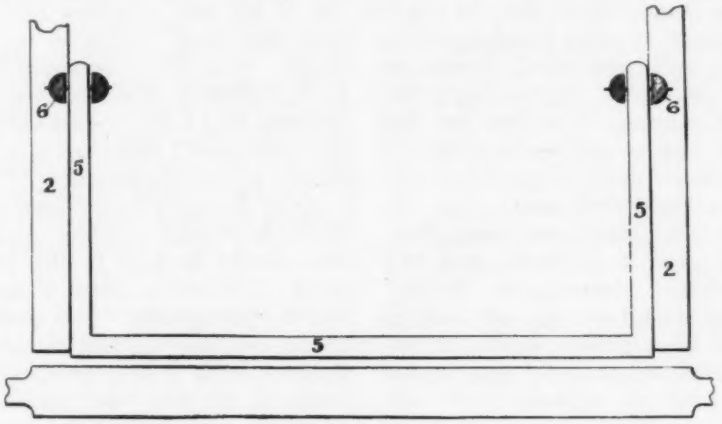


FIG. 5

Fig. 4 shows the socket in which the swinging retarder is fixed. A spiral spring is inserted in the socket, 6, the pressure being regulated by a set screw at the bottom of the socket. When the faller begins to drop the spiral spring raises the swinging retarder just a little higher than the level of the bottom saddle, 5, Fig. 2. The swinging retarder forms 3 sides of a square, the front bearing along the entire length of the faller. This not only checks the sudden drop of faller when released from the top saddle, but prevents any pins which are not perfectly fast from dropping out. This is a great advantage, that nearly all fallers are now pinned through, instead of using the old style of gill and faller, which were made separate. There is no doubt but that the improvement described above will appeal to all users of gill boxes, whether for combing

being "side" ground, reverses in its revolution, thus permitting the rings to continue in the spiral; by this means there is no possibility of the emery rings cutting off the teeth by running against the spiral.

GENERAL REMARKS ON COVERING CARD GRINDERS.

The Care of Grinders: At one time all grinding rollers were covered with emery applied to the body of the roller itself with some kind of glue or cement; in fact, hundreds of rollers per month are sent to our works at the present time to be recovered in this way. The advent of emery filleting, our own invention, made it possible to recover the rollers at the mill without the necessity of sending them away, with its accompanying inconveniences. Emery filleting has now become one of the standard

items of mill furnishings, and in itself has proved a boon to spinners in general, and especially to those in foreign countries.

The recovering of emery rollers at the mill by the old method was unsatisfactory, not only on account of the resulting irregularity of surface and loosely held grains, but also because of the damage caused to the card clothing and the resulting uneven slivers. However, this system has become a thing of the past, and with card grinders, such as those manufactured at the present day, this primitive method of recovering need not be employed.

It should be borne in mind that the condition of the surface of every grinding instrument, however well constructed, determines the quality of the work. Take a long grinding roller, for example: when first put into use, the roller may be practically perfect in every way, true and well balanced, but this truth must be maintained every time the roller is recovered. Hence the emery filleting should be even in thickness, and well wrapped, without creases or "kinks." Emery filleting should be kept on hand in every mill, and every grinder should be frequently recovered to obtain the best results in grinding, both as regards point and truth.

It is a mistake to imagine that, because the emery filleting still possesses a quantity of grains, there is life in it, and that one may continue to use it satisfactorily. The emery surface may still appear almost as good as when new; but if the grains have lost those properties necessary to the grinding of carding points previously mentioned, it is the wiser course to replace the filleting with new. It is false economy to attempt to economize by allowing card grinders to operate upon card clothing after the abrasive properties of the emery grains are exhausted. The rollers, when they have arrived at this stage, are not grinding, they are simply polishing, and doing damage to the wire teeth by causing "buckling" or deflection of the teeth owing to the inability of the person in charge to set the grinders properly. We have in this article advocated "light" setting. When the emery is new and replete with sharp points, directly it comes into contact with the wire a distinct rasping sound is heard, and this is the only indication to guide the operator in setting the grinding instrument. As the emery wears and the sharp points of the emery disappear, the sound is not so loud, and it becomes increasingly difficult for the operator to gauge by the ear the correct setting depth. To this may be attributed many cases of broken teeth of card clothing, flats especially. We have had many cases of the kind brought to our notice, and have invariably discovered that with more frequent recovering of the card grinders this difficulty has been overcome. Never let the grinders run longer than their capabilities will allow. Emery filleting is much cheaper than card clothing, and a few dollars more spent upon this article will probably save hundreds of dollars in another direction.

Apart from the emery covered surfaces of all kinds of card grinders, particular attention should be paid to the other wearing parts. The shafts must of necessity wear like everything else. This wear should not go on too long without attention from the maker. With a long grinding roller, traversing in the steps will cause hollow wear upon the shafts, with the result that the roller is rising and falling in its traverse. Have these attended to occasionally, as well as the motions themselves; the wheel grinder forks, screws and differential motion parts all require periodical overhauling. Do not let the grinders run until something breaks or gives out before sending the rollers away to be repaired. A cylinder has a high place. "Get the wheel grinder and true it up!" But the wheel grinder is out of order. "Oh, put it on and make the best of a bad job." We must all admit that these are everyday occurrences. Do not stand the grinders on their ends in a corner; they are liable to get the ends strained, or knocked down.

(To be continued.)

The imports into the United States in 1909 amounted to $62,010,286, more than one-half of which consisted of laces and embroideries.

ENGLISH NOTES.

(By Our Special Correspondent.)

Cotton is about the only depressed manufacturing industry in this country and is the only branch of the textile industry that is in anything like a poor way. The wool business has recovered from its fit of doubt and is busying itself over new yarn orders and season's cloth orders. Silk, linen and jute mills are all busy and the improvement in the general economic condition of the country is continuous. Exports were barely better in 1907 than they are today and unemployment is approximately at the lowest point for ten years. There is a firm tone of confidence and outside the cotton trade textile concerns are undoubtedly making money. Worsted spinners, for example, have had the advantage of a dip in price, which enabled them to buy more cheaply and they have not been forced to give an equal concession in selling yarn. The carpet mills are running to their full capacity.

* * *

The settlement of the cotton wages dispute affects only the spinning branch. The employers, it may be recalled, demanded a 5 per cent. reduction and that demand has been withdrawn on the condition that wages are to remain as at present for five years and that thereafter two years instead of one year shall intervene before successive advances or reductions are sought by either side. For five years, then, Lancashire wages are to be 5 per cent. better than the best before the last cotton boom. The compromise gives great relief, but it does not bind the weaving operatives, of whom there are 250,000, as against 150,000 spinning hands. The owners of the 800,000 cotton looms have diverse interests and are not banded nearly as closely as the spinners from whom they buy yarn. Spinning and weaving masters, Egyptian and American alike, cry bad trade and regularly and irregularly short-time is made by both of them.

* * *

Capital is being sought in this country for the exploitation of a new artificial silk of French origin. According to advices which are perhaps unduly sanguine, the yarn can be sold for $1.40 a pound and made for 10 cents a pound. The distinguishing feature of the manufacture is said to consist in the precipitation of the cellulose after having been once dissolved. The precipitate is washed to expel impurities, is redissolved and hardened in the familiar manner by the high temperature of the room into which the syringe squirts its jet of cellulose-silk. The fabrics made by this process have been put through a treatment known as Dr. Eschalier's Sthenosage (Gr. *sthenos* = strength). Whether that or some other treatment is responsible for the unsatisfactory dye of some samples shown is not known definitely. The samples stand the effects of wetting better than some artificial silks.

In the Bradford district imitation mohair linings are being made with a filling of artificial silk. The face of the fabric is printed in grey color with lines imitating the weave of sicilian and other goods. According to my present information, printing is the only process to which the goods are subjected after weaving, as artificial silk is not usually improved by piece-dyeing and finishing operations.

* * *

Textile operatives' leaders are making a point of the dangers of insufficient working space between machines and agitating for the condemnation of badly placed machinery. The crowding is oftenest the outcome of using old premises designed in days when machines were shorter. Weavers rather than spinners have cause to complain of the system of fines for faults and they are pushing legislation to abolish fines. The legislation will undoubtedly be resisted. The cotton card room workers unceasingly press for the compulsory removal of dust from the breathing level. According to figures produced in Parliament by a Labor member, 98 men out of 130 strippers and grinders, averaging in age 45 years, were sufferers from chronic asthma and the case was the same with 78 per cent. of another batch of similar size. Fifty mills out of about a thousand in which cotton carding is done have approved

suction appliances for conveying dust. Waste silk dressers are a smaller and less powerful body who have probably more cause to complain of dust and asthma and less chance of seeing the dust abolished.

* * *

The notion that mill work by child-bearing women is a cause of heavy infantile mortality receives a shock from the Medical Officer of Health to the chief spinning town, Oldham. An inquiry was made on Government behalf in a representative ward of the town and the fact emerged plainly that the death rate among children of mill mothers was slightly lower than among those having only domestic work. Eighty-five per cent. of the mothers interrogated had given up work one month or more before confinement. Twenty per cent. of them returned to the mill within two months after the event and some 60 per cent. did not resume work within the year. Of the mothers not engaged in the mill 80 per cent. worked to within a week of the birth. In these circumstances a statement that manufacturers are converting women into beasts of burden reads oddly. There are incessant calls for legislation here and legislation there by the strong and active Labor clique, but investigation usually shows our operatives to be doing what they want in conditions that are anything but horrifying.

* * *

Last year Selfridge of London exhibited some ready-made clothes of American tailoring and this year Forsyth of Glasgow has some of the same. Doubtless next year some Liverpool outfitter will be induced to follow. Should the result of these efforts be the popularization in this country of the "American shoulder" the very greatest benefit will have been conferred on the English ready-made clothing trade. But these importers are not leaders of men's fashions, and factory clothing in order to succeed needs to counterfeit the made-to-measure suit of the private tailor. In point of fact the main business of our wholesale clothiers so far as men's goods are concerned lies in "specials," i. e., suits made to individual measure in factories instead of in workshops. On the whole it is not probable that the private tailors who lead the fashions will set their seal on padded shoulders which assist any suit to fit any man.

These suits about which Consul Thomas R. Jones of Glasgow writes so enthusiastically are made of British cloth imported under drawback at New York, and all but 1 per cent. of the duty is rebated on export of the manufactured clothing. Even so, the prices made for the garments in Glasgow are sufficiently high. Blue serge lounge suits are quoted 84 and 90 shillings ($21 and $22.50) and overcoats at $22.50 to $28. The price constitutes no attraction, as custom tailors make suits out of the best cloths in the market at from $15 to $20. Obviously these high class ready-mades are for the few. There is no large public for suits at $22.50. The only considerable business in ready-made masculine garments in this country is done in boys' suits, gabardine raincoats of the fit-where-they-touch cut and suits for the poorest classes at prices between $3.75 and $7.50. The clothes used are mostly dark woolens and distinctly second rate worsteds. Except in raincoats the readymades on this market are inferior at every point to the productions of the private tailor and of course no such care is taken to sew back seams as is taken by American and Canadian clothiers.

* * *

The low price of noils at Bradford does not lead to business in them for the United States; the export was nil in July, being $700 less than in July, 1909. The July export of wool, although $250,000 in total, was roughly a million dollars less than at the same time last year. Despite resales of purchases some new buying goes on. I hear, for instance, of an order for 600 to 700 packs of North wethers. Sendings of silk noils, although still small ($8,000), are increasing monthly and both silk yarns and worsted machinery last month were above the $100,000 level. Shipment of Bradford wool goods to America tends to increase again, but the last tariff adjustment has cut the fast black cotton lining trade in half.

The rumor is revived that a Cleekheaton firm of worsted spinners intend to build a mill at Norrkoping (Sweden). Not many Yorkshire spinners or manufacturers have cared to build abroad, although Briggs of Briggella Mills, Bradford, have mills in Poland, and Holden's, combers, have works at Rheims (France). The Swedish population is small (5 1/2 millions) and yarn-trading is always a speculative transaction. Norrkoping itself has about a dozen woolen and worsted mills of which Nyborgs is much the largest consumer of worsted yarn and the producer of the finest cloths. Sweden gets its worsted yarn from Bradford and its woolen wastes from Bradford and Germany. Hitherto, the Swedes have used German looms, but a dozen Dobcross looms have lately been ordered for that country. Sweden has been the destination for some English decatizing machinery.

* * *

The following method of destroying starch sizing without scouring is not given as original but only as being rare. A finisher had a pile of flimsy cotton-warp flannels to deal with. The cloth was for a firm of needle manufacturers for use in needle cases and it was a necessity that the finish should be pure and free from anything which might assist rusting. The warps had been sized, and although all the size might have been removed by severe scouring, that course was not open. The fabric would not stand that treatment.

The finisher put in a lot of hard thinking and wasted more than a little time before an inspiration told him that starch could be converted into soluble sugar. He prepared a brew of bran and water, added yeast and when this was fermenting had the cloth worked in the vat. The starch readily broke up and dissolved and the final result was all a needle maker could desire. This memory of twenty years ago came back to the man in ransacking his mind for means to deal with organic acids engendered by incipient mildew in woolen goods that have been left wet and warm. A stain develops in the affected place, due to an excessive affinity that these portions of the piece show for dyestuffs. The defect can be dealt with before dyeing by neutralizing the organic product with weak hydrochloric acid. How can the defect be treated after dyeing? Stripping is no sure remedy.

* * *

A curiosity that has puzzled all the chemists to whom it has been shown is a cotton cloth of perfectly natural and ordinary appearance which declines definitely to take up dye. It comes out white from baths that dye other samples perfectly and as yet nobody knows why or is able to tell how the phenomenon comes about. To the manufacturer the refusal is simply a defect and a nuisance for which he cannot account. To dyers and chemists the accident seems to have great possibilities. There may be a fortune in store for the man who is able to treat cotton at no particular expense in such manner that it shall not take dye. Cautious inquiries into the life history of this freak of nature or of industry are proceeding.

* * *

The Bradford Conditioning House continues to make a pretty profit for the municipality despite the lowness of the scale of charges. The income for the last fiscal year is some $110,000 and the working expenses are $75,000, leaving a net balance after meeting depreciation of some $20,000. The bulk-testing department shows the largest growth during the year and this points to the growing popularity of the system under which the officials select their own samples for testing. Bulk testing involves the use of large premises and is made practicable by the close localization of the combing industry in England. There are no commission combs outside the Bradford area and very few spinners' combs.

* * *

In a burst of confidence the salesman for a leading English maker of mechanical stoking apparatus admitted that there is no stoking better than the best hand-firing. The

trouble is that the man who is competent to do the best hand stoking realizes that he is good enough for a better job and goes to it. When that is so with the rule-of-thumb man who has been trained solely in the school of experience the same results may well follow in the case of the man who has been to the Technical School and been taught the chemistry of combustion, the geology of coal, the theory of smoke prevention and all about chimney gases and draughts and the mechanics of stoke-hole appliances. The trained stoker ceases to be a stoker and becomes a mill engineer and so the smoke and grit accumulate in the textile towns and improved mechanical stokers become more than ever necessary. The coking-stoker which delivers a roll of small soft coal into the furnace is the fashion of the times and the sprinkler-stoker is practically abandoned by its former makers and friends.

COTTON PICKERS AND MATCHES.

BY G. M. CHAMBERLIN.

(From the Quarterly of the National Fire Protection Association.)

The causes of picker fires are often obscure, they being usually reported as "due to foreign bodies in the stock," or to "hot bearings." At a cotton mill where picker fires have been frequent, it recently happened that the master mechanic was at hand when one of these fires started, and he immediately threw the belt from the machine; the fire was quickly extinguished and on examination a partially consumed match was found in the burned stock. This fact, together with the elimination of other controllable causes, suggested to him that matches were frequently the "foreign" material in the stock reported as the cause of this class of fires.

With a strong prejudice on the part of the mill owner toward the belief that matches are the principal cause of picker fires, a unique and interesting experiment was recently made to determine which of the common brands of matches on the market it would be safest for the employes to carry about the factory. No smoking is allowed anywhere about the premises, but the employes carry matches for their after dinner smokes.

The test consisted in actually mixing matches of different brands with the stock, which was immediately run through the machines. The experiments were all made under as similar conditions as could be maintained. The machine used was an ordinary finishing picker having a hollow shaft beater, set to clear about 1/8 inch.

The stock used was, in each case, absorbent cotton, which burns with great rapidity, but, at the same time, is not as likely to retain sparks and sustain a slow internal combustion as ordinary cotton. This is doubtless due to the fact that, at this stage of its preparation, all of the grease has been extracted, its capillarity greatly increased, as is necessary in absorbent cotton, and a comparatively small amount of water will wet it through. This stock had just come through the first finishing picker, and was very slightly damp. No preparation beyond cleaning the machine of lint and wetting down the dust room under the floor was made for the test.

Test No. 1. The machine was put in operation with a lap of the stock described upon the feeding apron. Six matches of the Vulcan brand safety match, made at Tidaholm, Sweden, were laid loose or imbedded in the cotton. These came through the machine with the heads crushed to powder, sticks flattened and broken, but no sign of spark or fire. This match is commonly known as the safety match, and cannot by ordinary means be ignited except on the box.

Test No. 2. Six "Fusee" matches, also known as wind or storm matches, having a striking tip on a heavy body of a composition which will burn in a strong wind, were placed in the stock. This is also a safety match, can be ignited only on the box, and is manufactured in Tidaholm, Sweden. These matches came through the machine with heads crushed, one sample having been swept from end to end by the arm of the beater, and its bulky head flattened to the thickness of one thirty-second of an inch.

No fire or evidence of spark could be found in the stock following this test.

Test No. 3. Six Red-Top matches were then used. The Red-Top match is a so-called safety match made by the Diamond Match Co., and does not easily ignite except on the impregnated box. It is, however, more active and sensitive to heat, friction, moisture, etc., than the Tidaholm matches. Most of these matches came through the machine with heads crushed and flattened, but while some showed no spark, there were small scorched areas where their heads had been. No fire resulted, however, the spark which caused the scorch being wholly extinguished by the pressure of the roller which received the stock from the beater chamber. It may also be true that the very slight dampness of the stock was sufficient to keep the temperature developed by the spark below the danger point.

Test No. 4. Six matches of semi-safety type were tried. These were of the Black and White brand, a double dipped match manufactured by the Diamond Match Co., a licensed match and properly claimed to be a great improvement over the common parlor or snap match. These and similar matches are made with a two-part head, the ignition head, similar in action to the head of the old sulphur match, though somewhat more rapid in action, being dipped onto the burning head. Ordinary friction upon any surface will ignite the ignition head, the burning head taking fire from this without explosion. The burning head undergoes rapid flaring combustion and the heat produced by these match heads is intense. The first of these six matches had no sooner reached the beater than the whole of the beater box was in flames. Nothing resembling an explosion was observed and no snapping report or sound was heard. The belt of the machine was quickly thrown off and water from a spray nozzle and skillful use of a hand extinguisher had the fire out almost instantly.

Test No. 5. The machine was cleaned, dried and set in motion again, and after running empty for some time, without any evidence of there being spark or fire present, the stock was started through. After this had run a few moments, six parlor or snap matches were put in the stock. The particular brand used in this experiment was the Sun Light match, manufactured in the city of Bellefonte, Pa., by the Pennsylvania Match Co. When the first of these matches reached the beater, it ignited or exploded with the characteristic sharp report and the beater box was in flames. This fire was extinguished as was the preceding, and the machine was again started. Immediately sparks and considerable smoke appeared. The machine was stopped and examination showed several small bits of glowing cotton in the beater box. These were wet down and the machine again started, with the reappearance of smoke and sparks. The machine was again stopped and on examination glowing cotton was found in the hollow arm of the beater shaft, these sparks persisting in spite of the double and presumably thorough wetting just given the machine. Before the next test the hollow spindle of the beater was thoroughly cleaned of compact lint and was run for some time empty.

Test No. 6. No sparks or smoke appearing, stock was again started through, this time containing six of the ordinary Portland Star sulphur matches, the results being very satisfactory, although the sticks of these matches were thoroughly crushed, and the heads pulverized, no sign of spark or fire was discoverable.

Test No. 7. Then followed a speed test, the safest of the samples already tried were put through the machine at a more rapid rate, and in greater numbers. Twelve of the Vulcan matches, six of the Fusee, twelve of the Red-Top and eighteen of the sulphur matches followed each other so rapidly that particles of the heads of all of them must have been mixed together under the action of the beater. No fire or sparks appeared, though the mixture resulting under these conditions must have presented a much more dangerous combination of combustibles than that contained in any one of the heads separately. This ended the test in the picker.

A further test was made of these matches to demonstrate their behavior under ordinary conditions of use. They were, respectively, subjected to moderate heat, moderate heat with friction, friction alone, crushing and dampness. The Vulcan and Fusee matches withstood the heat of an iron radiator under 10 pounds of steam for 5 minutes. Friction on this surface also failed to ignite them, and even though they were ground to a powder on the heated iron no spark or ignition of even the smallest particles resulted. Friction on glass, however, ignited them, and the heads glowed after ignition, remaining dangerously hot for nearly a minute. The Red Top match, when subjected to slight motion and pressure on the heated iron, gave minute, crackling explosions, showing that particles of the composition were ignited, although the head did not burst into flame. Friction on glass either caused these matches to ignite, or the heads crumbled, parting from the sticks. Friction on varnished wood gave similar results. The Sulphur, Parlor and Black and White matches readily ignited by heat alone, by heat with friction and by friction alone. Under crushing or friction the action of the Parlor match was characteristic, igniting with a sharp report, and with sufficient violence to rupture the head, throwing burning particles to some distance. The Black and White variety lacked the explosive quality of the parlor match, and under friction showed no tendency to rupture. This match appears to be more than ordinarily susceptible to the action of moisture, under which it softens, and shows a tendency to part from the stick. This is also true, to a lesser degree, of the sulphur and parlor match. This characteristic presents an element of considerable danger, as, when the lost heads again dry, they may be easily ignited by crushing or friction. Under crushing the action of the sulphur match is uncertain, sometimes igniting, often failing.

As an outcome of this experiment the mill owners concluded to furnish without cost to their employes the safety matches made in Sweden. However, an American safety match (not available at the time of the experiment) was later found which had all the advantages of the Swedish match and the additional desirable property that the heads did not glow after ignition. After several months of use of safety matches alone, the mill owner reports that fires in the mill have decreased at least 50 per cent.

CREPE FABRICS.

BY TRINIDAD.

One of the most popular novelty fabrics at the present time is the crepe or crinkle cloth. The same type of cloth with a silk warp is termed "crepe de chine." As this crepe effect is being adapted to plain cloths, fancy stripes and jacquard work we will take for consideration only two or three of the simpler varieties. The higher grade fabrics are generally made with an extra classical single silk warp, about 24/26 deniers, using a very hard twisted worsted or 2-ply cotton filling. The lower grade fabrics are made with single hard twisted cotton filling.

The crepe effect in these goods is obtained by using 2 kinds of fillings of the same counts, one being a regular twist and the other a reverse. They are woven into the cloth in groups of 2 or more picks of twist. If a small crepe effect is desired, 2 picks of regular twist are woven in and then 2 picks of reverse twist. This would produce the effect as in Fig. 1.

The layout in the grey is 90 × 54 — 26 inches, 24/26 denier silk warp and 2/75s cotton filling, 50 turns per inch.

These fabrics, as taken from the loom, show no crepe effect whatever, the contraction in weaving being less than 3 per cent. in the case of the silk goods. As the cloth is passed through the finishing processes it becomes thoroughly saturated and the filling being twisted hard and the silk warp being very light, equal to about 200s in cotton, the result is that the fabric shrinks from 20 to 30 per cent. according to the construction and the twist in the filling.

The crepe effect in the finished cloth is

caused by the spiral formation of the filling yarn. The spirals in the regular twist drawing the silk warp in one direction, while the spirals in the reverse twist draw the warp in the opposite direction. The result is that the warp is drawn out of all semblance of a straight line.

these fabrics successfully, both in the weaving and in the preparation of the hard twisted filling. The warps should have a good substantial selvage so that if the filling should get caught it will not pull the warp out at the sides. A frequent cause of imperfect cloth is the tendency of the hard twisted fill-

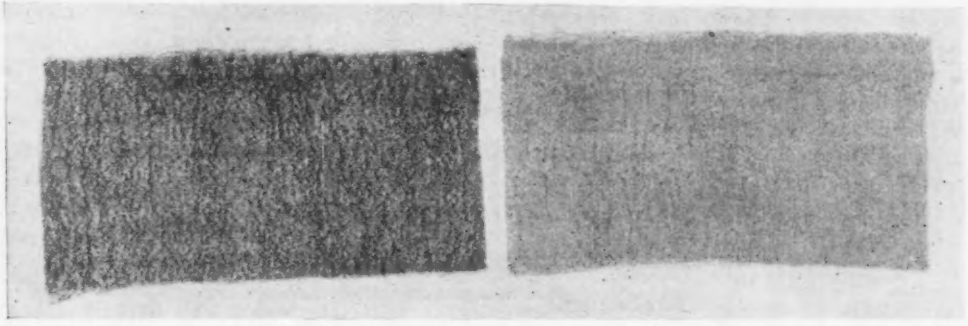


FIG. 1.

FIG. 2.

Fig. 2 shows a cloth of the same construction as Fig. 1, except that the filling is arranged 12 picks of regular twist, then 12 picks of reverse twist. This causes the large crepe effect.

Fig. 3 shows an unfinished cotton crepe

ing to slip on the silk warp, making thick places when the filling is renewed. Kinks or snarls are caused by the twist in the filling not being set before sending it to the weave room. The mechanism for changing the filling should be kept in good working order,

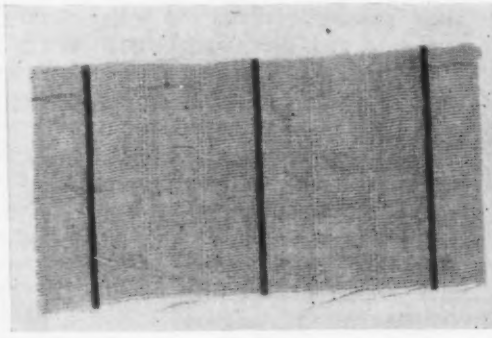


FIG. 3.

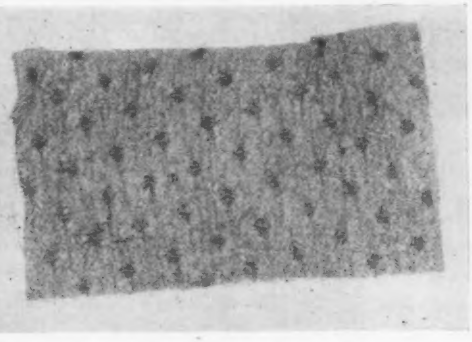


FIG. 4.

fabric woven like Fig. 1, except that the filling is woven with a cotton warp arranged to give a crepe stripe along with a narrow silk stripe. The construction is 88 × 52 — 25 inches, 65s cotton warp, 45s hard twisted (40 turns) single cotton filling, 2 picks of regular twist and 2 picks of reverse twist.

Careful attention is required to produce

otherwise only one twist, regular or reverse, will be woven into the cloth and the crepe will be all in one direction, as shown in Fig. 4. To overcome this difficulty some mills have the reverse twist filling dipped in a light dye. The weaver then can readily see whether the correct number of picks of each twist are being woven in the cloth.

Single hard twist filling for these fabrics is generally spun on a frame, the turns per inch being on a basis of 40 turns for 40s yarns. The yarn is generally wound on a long paper tube so as to allow the moisture to penetrate to the inner portion of the cop. After being spun it is steamed two or three times and then stored in a damp room to allow the twist to become set. The 2-ply filling is first given a preliminary twist and then a final twist on a wet twisting frame. It is then sent to the ageing room as in the case of single filling. The counts vary from 2/50s to 2/100s; and the turns per inch, from 40 to 75.

A COTTON WEAVING MILL.

From Uhlands Technische Rundschau.

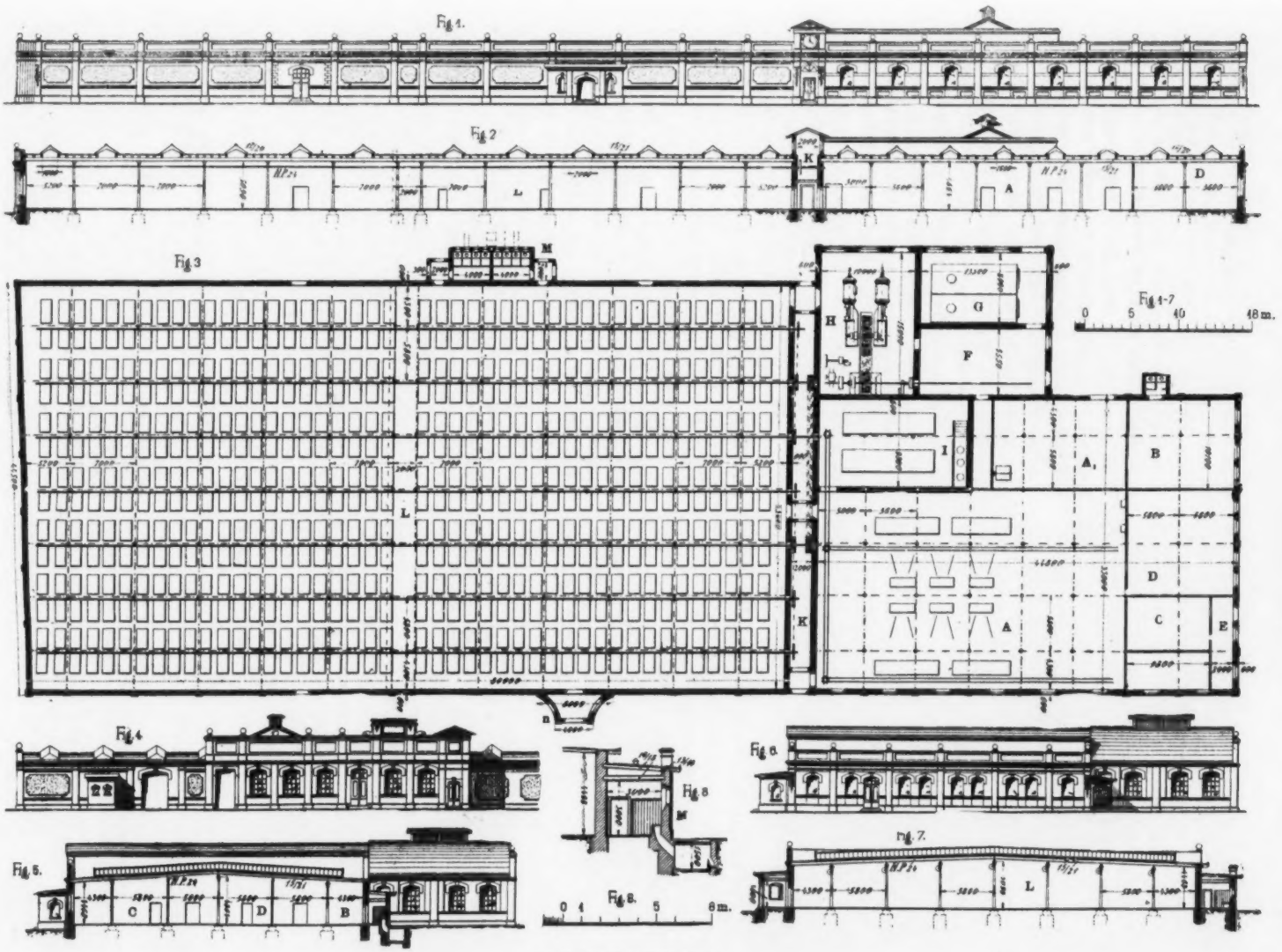
(Translated from the German by the Editor of the Textile World Record.)

The accompanying plans were prepared for a cotton weaving mill to accommodate 308 looms, and which could be economically enlarged later on to double the number, or 616 looms. The skillful manner in which this problem has been solved deserves the general attention of the trade. The building is one story throughout with a saddle monitor roof. It is divided into two parts by the beltway, K. At the left of the beltway is the weave room accommodating 308 looms up to the passageway, L, which marks the present limit of the building. When business warrants the weave room will be extended as shown in the plan. At the right of the beltway are the offices, shipping rooms, and warp preparation processes, so arranged as to enable the work to be carried on with a minimum amount of transportation of the material. The main entry, E, leads direct to the office, C. Adjacent to the office is the store room, D, beyond which is the shipping room, B. In the glass partition between the store room, D, and the warp preparation room, A, are sliding doors for the delivery of warp and filling.

The material is transported in trucks running on a narrow gauge track which ends at the sliding doors. The warp preparation room is large and if necessary can be extended to include the store room, D. In that case the material would be stored in the room A^1, where the cloth would also be examined and measured. The warp preparation room contains four warp spoolers of 150 spindles each. These supply six warpers, giving three spoolers for two warping machines. This number will be increased in case the mill is enlarged as planned.

Filling winders are not needed as the filling comes on cops. There is ample room near these machines for the drawing-in and warp twisting, also for the storage of material and weaving utensils. The warps after being beamed are taken to the sizing room, I, where two sizing machines are located. A wood superstructure contains the sizing and stirring apparatus. Back of the warp preparation room is a wing in which are the power house, H, boiler room, G, and the work shop, F. The power house contains a 300 h. p. compound engine which at first will be used only with high pressure. The low pressure will be employed when the mill is extended.

The boiler house contains two boilers, each with a heating surface of 2,700 square feet. Adjacent is the work shop, F, containing the usual tools for repair work. The beltway, K, is built with passageways to allow passing between the weave room on one side and the engine room and warp preparation room on the other. The weave room, L, as already stated, is arranged in two parts, each accommodating 308 looms. The distances between the posts are 23 feet lengthways and 19 feet crossways. Each square accommodates eight 42-inch looms. At the front of the buildings is a tower, n, allowing entry into the mill. The toilet rooms, M, are located back of the mill. The construction of the building is shown by the longitudinal section, Fig. 2, and the cross sections, Figs. 5 and 7. The room as shown is of the ordinary iron and wood construction. The rafters rest on iron T beams, NP24, which are 6 by 8 in. The windows in the roof are of the usual width, 6 ft., 6 in., and rest on 4 by 8 in. rafters. The monitors run crossways of the building, between each row of posts, and parallel with the shafts of the looms.



A COTTON WEAVING MILL.

Figs. 1, 4 and 6 show the exterior of the mill which is of the ordinary style. The power is transmitted from the fly wheel of the engine to the main shaft by 12 ropes 2 inches in diameter. The main shaft extends into the repair shop. Near the main bearing in the power house is a coupling for disconnecting the shafting when required. To the left is a counter shaft for driving the continuous current dynamo for lighting the mill. In the beltway the main shafting drives the counter shafts with 4 ropes, 1 3/4 inches in diameter, running on sheave pulleys 60 inches in diameter. The arrangement of the belts is shown at Fig. 3. There is a platform in the beltway from which the bearings are oiled. Each shaft drives at first 44 looms; this number will be increased to 88 when the mill is enlarged.

THE METRIC SYSTEM IN THE PHILIPPINES.

From The Manila Times.

In the July number of the Textile World Record, Samuel S. Dale, the editor, returns to the charge in the matter of the metric system. Here in part is what he has to say:

About a year ago we called attention to the edict of the Philippine government making the use of the metric system of weights and measures compulsory in the archipelago after Jan. 1, 1909. We published at the time letters regarding this question that had passed between the Bureau of Insular Affairs, Governor General Smith and ourselves. General Smith waxed sarcastic in his comments on our protest against the metric decree, the following passage illustrating his state of mind at the time:

"It seems to us who are here on the ground and who really do know some little of the Philippines and of its customs and people, that it would be much harder to introduce the English system of weights and measures than it would be to introduce the more scientific and sensible metric system."

We replied to General Smith and bowed to the argument of superior force, but at the same time promising our readers that we would "watch and report upon the development of the failure that awaits the Philippine authorities in their attempt to prevent the use of American weights and measures in a country whose welfare depends so largely on close trade relations with the United States." Our letter to the Bureau of Insular Affairs in reply to General Smith was dated Apr. 12, 1909. In almost exactly a year from that date evidence of the continued metric failure in the Philippines was supplied by a letter dated Apr. 9, 1910, from the Manila Merchants' Association to the Governor General.

General Smith is, we believe, no longer governor general of the Philippine islands. Possibly now with his vision improved by his removal from the ground he may learn from this petition of the Manila Merchants' Association that general custom is a power superior to any possessed by the government even of the Philippine islands.

It seems to us that the request made by the local organization of business men is a very fair one. Its chief feature is the application to have the American system operate side by side with the foreign system that was adopted, although it makes the very useful suggestion that certain established local measures be recognized and standardized to both the metric and English systems. Almost any person to whom one talks will admit the fairness and wisdom of doing this except a small party of scientific and academic persons in the government who seem able to block the effort at reform. The government itself is committed to the policy of building up trade between the Philippines and the United States, and yet in its present position it is submitting almost every article of American manufacture to a serious handicap. It is distinctly surprising to find as thoroughly a practical man as the present head of the island government permitting this piece of unwisdom to continue.

Incidentally it may be remarked, the petition of the Merchants' Association is still somewhere in "official channels."

FAILURE OF AN EXPORTERS' COMBINE.

The British consul-general at Barcelona, in a recent report, gives an account of a combine of Spanish cotton manufacturers, which was formed at the close of the war with the United States for the purpose of opening up new markets to take the place of those lost by the cession of Cuba, Porto Rico and the Philippines. The consul-general says:

In June, 1907, a meeting of the cotton manufacturers of Catalonia was held at Barcelona to consider what steps could be taken to dispose of the large stock of goods which had accumulated owing to the gradual cessation of exportation since the loss to Spain of Cuba and the Philippines, and it was decided that an association should be formed with the object of finding other mar-

kets for such goods as could not be sold in the Peninsula, and of indemnifying exporters for any loss entailed by sending these goods to countries where they were either not known at all or but little known.

It was thought that by this means all the cotton mills in the district could be kept running, as it was hoped that the good prices obtained for goods sold in Spain would compensate for the loss on the goods exported to new markets. In all 83 per cent. of the owners of mills making this class of goods, representing some 20,000 looms, joined the society. The association was under the management of five directors, assisted by a committee of 15 members, all manufacturers. The number of hands employed by the members of the association was about 47,000, and the wages bill about $7,075,000. Each member joining the association paid an entrance fee of about $92, and undertook to pay all calls made by the directors in proportion to the number of looms running in his mill. Up to the 31st August, 1909, after 25 months' work, Spanish cotton goods had, under this system of premiums on exportation, been sent to about 180 new markets, principally in new countries.

The goods consisted of close upon 1,000,000 pieces of 100 yards each, weighing over 8,000 tons, valued at $7,300,000, and represented the output of some 4,000 looms. The export of these goods to foreign markets entailed considerable loss to the manufacturers, and in order to make this good, heavy calls had constantly to be made on all members of the "Mutua," with the result that great discontent began to be shown by the subscribers. The policy of the directors in sanctioning the export of 25,000 pieces of cretonne to Manchester was severely criticised, and several members refused to contribute to the heavy loss entailed by this experiment; protests were made, legal proceedings followed, the relations between the directors and the share-holders became strained, and the directors experienced great difficulty in persuading the members to continue their subscriptions.

Under these circumstances it was suggested that an application should be made to the Government for pecuniary assistance, and in the summer of 1909, a petition was presented to the Minister of Finance praying that a grant, equivalent to the amount paid by the members of the "Mutua" in customs duties on raw materials imported by them during the previous two years, should be made to the association. The Government then in power seemed willing to grant this request, and probably some substantial assistance would have been granted to the "Mutua," but before the details could be arranged the Government fell. In December, 1909, an application to the same effect was made to the new Government, and this application was supported by the Civil Governor of Barcelona, who represented the disastrous effects which might ensue in Catalonia if thousands of workpeople were thrown out of work by the collapse of the "Mutua." It seems probable that the association would have obtained the pecuniary assistance asked for from the Government, but while the negotiations were in progress reports of the dissensions which existed among its members reached Madrid, and the Premier refused for a time to give a decisive answer.

Matters went from bad to worse, and at a general meeting it was suggested the association should be wound up. This, however, was negatived by a majority of eight votes, the managing director pointing out that the suppression of the "Mutua" would be a public disaster, entailing as it would the closing of mills employing over 46,000 hands; but as a result of this meeting it was unanimously resolved that no further premiums should be paid for a period of eight months, during which time the directors, with the cooperation of the subscribers, should endeavor to devise some scheme by which the "Mutua" might work in a way to render its operations beneficial to all the members. This, however, has been found impossible, and the association is now in course of liquidation.

This is a matter which must interest British manufacturers of cotton goods, as, under the system described of premiums on exportation, considerable quantities of Catalan cotton goods were exported to the Near East, whereas now it is more than probable that this export will almost entirely cease.

Questions and Answers

Under this head we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to the TEXTILE WORLD RECORD. Questions should be stated as briefly and concisely as possible. Inquiries pertaining to textile processes, machinery, improvements, methods of management, the markets, etc., are especially invited, as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

Sizes of Yarn.

Editor Textile World Record:

Will you explain in your next issue what is meant by 2/10 yarn or 4/12 yarn, etc., and how do they determine sizes? If you will make this plain enough for an office clerk to understand it will be appreciated by one who reads your paper and is endeavoring to learn something about textiles.

Saxon (1215).

The correspondent who asked this question did not give his address, otherwise we would have mailed him a reprint of an article giving information regarding yarn counts. Yarn is numbered to indicate size, either by the fixed weight or by the fixed length system. The fixed weight count indicates the length of a given weight of yarn. The fixed length count indicates the weight of a given length of the yarn.

As examples of fixed weight systems may be mentioned the cotton count, which indicates the number of 840-yard lengths per pound; the worsted count, indicating the number of 560-yard lengths per pound; and the carded woolen run count, indicating the number of 1600-yard lengths per pound.

Examples of the fixed length systems are: the denier count for silk, indicating the weight in deniers of 400 ounces of silk; and the various grain counts, indicating the weight in grains of a certain length of yarn, 120, 100, 50 or 25 yards. If two or more strands are doubled together the ply and count are indicated thus: 2/40s, meaning that two threads of single 40 have been twisted together; 3/30, three threads of single 30, etc. This method is modified for spun silk by having the count indicate the resulting count of the ply yarn instead of the count of the singles. For example, 20/2 spun silk is made by twisting two strands of single 40 together, making the 2-ply equal to a single 20s. In giving the size of spun silk the count comes first and is followed by the number of strands, thus: 20/1, 40/2, etc.

The sizes of other yarns, cotton, worsted, linen, carded woolen, etc., are stated by giving the ply first and following with the count of the single strand, thus: 1/24, 2/30, etc.

Price of Wool.

Editor Textile World Record:

We wish you would give us the price of fine medium territory scoured in 1906. Also the price of fine medium territory scoured combing wool in the same year, and the price of each at the present time. What is the reason why wools advanced in the fall of 1909 and then fell off in price in the spring of 1910? Also give your judgment as to whether wool will probably remain where it is today or whether it will go higher or lower.

Ellsworth (1216).

"Ellsworth" will find on page 197 of our August issue a chart showing the fluctuations in the prices of four grades of wool. The lines for three of them, one of which is for fine medium territory clothing wool on a scoured basis, cover the period from Jan. 1, 1890, to Aug. 1, 1910. These figures are brought up to date each month. The margin between clothing and combing wool does not vary much from year to year, so that allowance can be made for any period desired.

Wool advanced in 1909 all over the world. It was due to the increase in the demand accompanied by a stationary supply. The world's price of wool has not declined materially in 1910. Wool prices have declined in this country as a result of local causes with which "Ellsworth" must be familiar. These local influences have affected foreign markets, although as yet not materially.

As regards the future course of wool

prices, there is one factor which is very much in evidence, namely, the stationary supply of wool, which tends to a continuance of high prices for this staple throughout the world.

Cloth for Lantern Screens.

Editor Textile World Record:

I enclose a leaflet describing a cloth called "Luminare," which is used for covering screens to be used with magic lanterns. Can any of your correspondents tell me where this is made and by whom? Cine (1211).

Our English correspondent writes:

It is impossible from the leaflet to tell exactly what the fabric in question is. The name "Luminare" is unknown, but am able to send patterns of fabrics which display all the characteristcis named in the leaflet. They are called here "Veluna" cloth and are manufactured by the firm of Jones Bros., Ltd., York St., Manchester. I have indicated the quality, which is usually sold for cinematograph screens; it is made in 41 and 51-inch widths and screens are made from it by straight-cutting and pasting the edges together. This fabric in question appears to be a fine Bolton longcloth or cambric which has been subjected to a special finishing process. The finished article has a slight glaze upon one surface, is free from interstices and seems to combine some of the qualities of paper with an undoubted cloth basis. The fabric hangs straight and stiffly and is in fact a hybrid between paper and cloth; a woven fabric over which has been laid, by one means or another, a coating of viscose or dissolved cellulose. Probably the loose cellulose has been spread mechanically over the fabric in such a state that it would combine with the cellulose of the yarn. To this extent the cloth resembles the artificial leathers which are used so much in upholstery. I am assured that no quantity of boiling separates the finish from the cloth.

Doubtless the patterns will be interesting to others than the inquirer. "Veluna" cloths are used in place of paper or calico-backed paper for making military and naval maps, automobilists' maps, etc. Posters for the White Star line have been lithographed on the same medium, and nursery books have been printed on it. I believe that the fabric has been sensitized to light and used photographically for plans and so on. Colored suitably it would make an excellent light-filter for photographic darkrooms and cloth similarly prepared may well have many minor or special uses. Its suitability for projection screens is evident at once. [The samples accompanying this reply can be seen at our Boston office.—Ed.]

Wessex.

Wire for Cylinders and Doffers.

Editor Textile World Record:

In a shoddy mill using 60-inch cylinders, 3 in a set, running 100 revolutions, we have much trouble with uncarded threads and short staples. What is the best size of wire for the cylinders, doffers and workers for this class of work? Is a slow, thick feed better carding than a fast, thin feed, where the production remains the same?

Carder (1160).

A speed for main cylinder of 100 revolutions is altogether too high. This speed will not result in carding out any more of the hard ends than will a slower speed. If sewing threads and hard twisted threads are in the stock, they cannot be carded out on a woolen card. I would not run a 60-inch cylinder over 85 revolutions per minute on any kind of stock. A faster speed will break the ends, cut the stock and cause it to drop under the card.

The best results will be obtained by using a 30 wire on the first cylinder, 32 on second and 34 on finisher. A very heavy feed is liable to leave the feed rolls in bunches. This should be avoided as much as possible. Run the feed light enough so it will go in the card evenly. Short wire should be used on the leader, as this will take the stock more evenly from the feed rolls. Lytton.

It is difficult to give a remedy for this as the question is put in a rather indefinite form. In the first place it is not the size of wire that causes the trouble, but a wrong setting and improper speed of the rollers. The speed of the feed alone has little to do with the case; it is the relation of the feed to the rollers near it, their relation to one another and the other working parts. It is wrong to run the cylinders at 100 revolutions per minute. The proper speed is 80;

the first doffer 5 revolutions per minute, and the second doffer 4 1/2 revolutions per minute. With these speeds in the card room better results will be obtained in the subsequent processes.

If four cylinders are used in place of three, the fourth cylinder has a better chance of doing away with this evil of uncarded threads. By the thickness of the wire presumably is meant the count and crown. The following specification for four cylinders may be of service:

Name of Roller.	Count Crown.	Workers.
All breast part	75-6	....
First swift	90-9	95-9
First doffer	95-9	95-9
Second swift	120-10	120-10
Second doffer	115-10	120-10
Third swift	135-11	135-11
Third doffer	130-11	135-11
Fourth swift	135-11	135-11
Fourth doffer	135-11	135-11

This set is for medium suitings and may be taken as an average, slight variations being made for varying makes.

The following particulars are for fine woolen carding set:

Double Scribbler, 72 Inch.

Rollers	Count and Crown.	Size of Wire. B. W. G.
Feed	....	14s
Lickerin	....	16s
Angle stripper	70-6	26s
Breast	80-8	27s
Workers	85-8	28s
Strippers	70-6	26s
Fancy	60-6	28s
Breast doffer	85-8	28s
Angle stripper	80-8	29s
First swift	120-10	33s
Workers	125-10	33s
Strippers	100-9	31s
Fancy	65-7	32s
Doffer	125-10	33s
Angle stripper	100-9	31s
Second swift	130-10	34s
Workers	135-11	35s
Strippers	110-9	32s
Fancy	70-7	33s
Doffer	130-12	35s

Single Intermediate, 72 Inch.

Rollers	Count and Crown.	Size of Wire. B. W. G.
Feed	....	16s
Takerin	....	18s
Angle stripper	100-9	31s
Swift (or cylinder)	130-11	35s
Workers	135-11	35s
Strippers	110-9	32s
Fancy	75-7	34s
Doffer	135-12	35s

The intermediate is seldom used for coarse materials and lower counts. The same principle of construction applies to all the machines in the set, but it should be noted that there is a variation in the number of rollers and fineness of clothing, all being so arranged that the material is fully opened without in any way injuring the fibers:

Double Carder, 66 Inches on Wire.

Rollers	Count and Crown.	Size of Wire. B. W. G.
Feed	....	16s
Takerin	....	18s
Tumbler	100-10	31s
Worker	110-9	32s
Breast	130-10	34s
Workers	130-11	34s
Strippers	110-9	32s
Angle stripper	110-9	32s
First swift	130-11	35s
Workers	135-11	35s
Strippers	120-9	33s
Fancy	80-8	34s
Doffer	135-11	35s
Angle stripper	120-9	33s
Second swift	140-12	36s
Workers	145-12	36s
Strippers	120-12	34s
Fancy	80	35s
Doffer	140-12	36s

In the double scribbler 3 sets of workers and strippers are used on the breast and 4 sets on first and second swifts. In single intermediate 4 workers and strippers are used on the swift, while on the double carder 2 strippers and workers are used on breast and 4 workers and strippers on the first and second swifts. Nevertheless, no matter how perfect and well balanced the machinery is, great care and constant examination will have to be exercised, both in setting and in the relative speeds if the best results are to be obtained. John Brown.

Speed of Grinders.

Editor Textile World Record:

I have read with interest your article on Card Grinding by Dronsfield Bros., Oldham, England. I have been looking for information on the best speed to run grinders and also what size and grade give the best satisfaction. Can as good results be obtained from a solid emery wheel as from one that is covered by hand with emery cloth, or with emery glued on direct? Carder (1214).

Dronsfield Bros. reply to this question as follows:

In reply to "Carder's" inquiry, our recommendations are, of course, relevant to our own specialities:

Speed of emery wheel or traverse grinder, 600 to 700 revolutions per minute. Speed

of plain or long grinding roller, 800 revolutions per minute. For grinding hardened and tempered wire, No. 40 and No. 7 emery gives the best result. For mild wire, Nos. 5 and 6 emery is most suitable. We recommend the disc covered with emery fillet, as giving the best results in grinding. This class of disc is now almost universally employed.

Manufacturing Half Hose.

Editor Textile World Record:

I would like some information on the manufacture of high grade mercerized lisle mens' half hose.

What number of needles are generally used in manufacturing fine 25 cent value mens' seamless half hose? What is the price at present received from the jobbing trade for this class of goods? What is the ply and number of yarn, mercerized lisle, used in the tops, body and for splicing? What is the present cost of the yarns? Assuming that 9 and 4 cents were paid respectively for knitting, including topping and looping on 176 needle goods, what should be paid for knitting and looping in this gauge?

Quentin (1208).

The number of needles used in the manufacture of men's fine 25 cent half hose ranges from 200 to 240 on a 3 1/2 inch cylinder. The general tendency at present is for finer and lighter goods. The demand is for fine gauze and the manufacturers are experiencing much difficulty in making the goods light enough. Of course the finer the gauge of the machine the finer must be the yarn; the finer the yarn the higher the price. On a 200 needle machine the yarns generally used range from 2/36s to 2/50s. With 220 needles the yarns range from 2/40s to 2/60s. For 240 needles the yarns range from 2/50s to 2/100s. The cost of these yarns will depend largely upon the quality. In these numbers we have mercerized combed peeler, which is the cheapest quality; mercerized combed Egyptian, which is the medium grade; and mercerized combed sea island, which is the best quality. The grade chiefly used is combed Egyptian. The cost of this yarn runs from 70 cents for 2/36s to $1.20 for 2/100s. The size of the yarn used will not change the cost of goods as it will be found that the difference in weight of the finished goods will about offset the difference in price of the different yarns used. The price paid by the jobber for this grade of goods is about $1.75 per dozen. Manufacturers selling direct to the trade get from $2.10 to $2.25 per dozen for the same grade. The size of yarns used in top and for splicing depends on the size of the yarn used throughout the body of the stocking. It is advisable to use a heavier yarn in the top than in the body. Perhaps the most popular gauge of men's half hose at the present time is 200 needle. The yarn generally used with this gauge is 2/40s mercerized carded Egyptian in the body of the stocking, and 2/34s mercerized in the top. The most popular lines are made on a heel changing machine, using two threads of 2/40s carded peeler yarn in heel and toe. Where the heel changing machine is not used the stocking should be spliced in heel and toe with 2/50s mercerized carded Egyptian of the same grade as is used for the body. The same grade of yarn should be used for the top and the body, as different grades of yarns will take different shades in dyeing. The prices usually paid on this grade of goods are as follows:

	Topping.	Knitting.	Looping.
200 needles	doz. 8c.	4½c.	4½c.
220 needles	doz. 9c.	5c.	5c.
240 needles	doz. 10c.	5½c.	6c.

Finishing Bed Spreads.

Editor Textile World Record:

I would like to have some information regarding the method of finishing bed spreads in order to obtain the satin finish like the enclosed sample. What drugs and chemicals are used and what is the process? Hunter (1185).

A finish similar to that on the sample submitted may be obtained in the following manner:

Starch	25 lbs.
Recovered grease	5 lbs.
Water sufficient to make up 100 gallons, when boiled.	

The starch and recovered grease are well boiled up with water until a thin homogeneous paste is obtained. This is then made up in volume to 100 gallons by the addition of sufficient water, if necessary. The bleached cloth is then treated with the starch solution in an ordinary starch mangle, after which the excess of liquor is squeezed not by passage through pressure rolls. The cloth is finally dried over cans, but not calendered.

Howell.

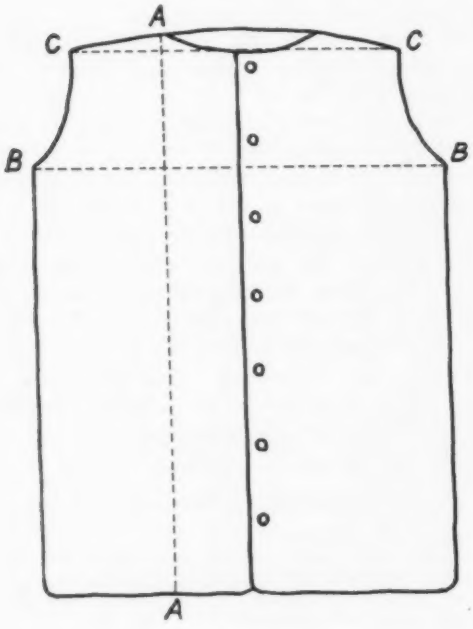
Sizes of Men's Athletic Underwear.

Editor Textile World Record:

Please give the sizes of men's athletic underwear, pajamas, nightshirts and similar goods.

Franklin (1196).

The following is a list of sizes for men's athletic shirts and drawers and the illustrations show where the measurements are taken:

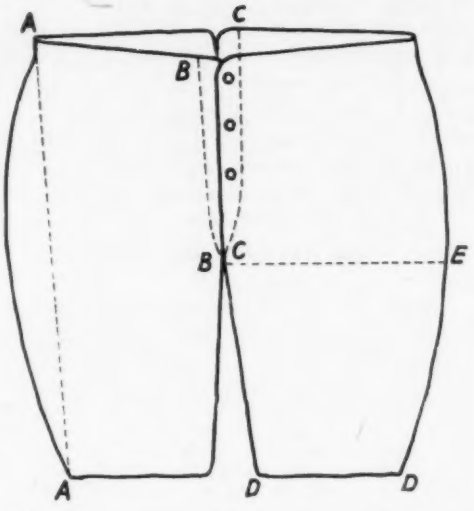


Shirts.

	Body Length A to A	Body Width B to B	Shoulders C to C	Armholes C to B
34	32	19	15	9
36	32	20	16	9½
38	33	21	17	9½
40	33	22	18	10
42	33	23	19	10
44	34	24	20	10½
46	34	25	21	10½

Drawers.

	Length A to A	Front Rise B to B	Back Rise C to C	Width at Knee	Width at Thigh
30	23	12½	14½	9	13½
32	23½	13	15	9½	14
34	24	13½	15½	10	14½
36	24½	14	16	10½	15
38	25	14½	16½	11	15½
40	26	15	17	11½	16
42	27	15½	17½	12	16½
44	28	16	18	12½	17



I do not know the sizes for pajamas or night shirts. Fillmore.

Bleaching With Sodium Perborate.

Editor Textile World Record:

We would like to obtain information relative to the use of sodium perborate as a bleaching agent for textile fabrics, and would like to have you advise us if the product is, to your knowledge, used in this field and for what particular purpose? We know that it is extensively used in place of chlorine on the Continent.

Manufacturer (1213).

There is very little positive information as yet available respecting the use of sodium perborate for purposes of bleaching textile fabrics. This substance has been brought forward of late years in Germany as a suitable bleaching agent, but it is extremtly doubtful as to whether it has as yet been brought into any extensive practical use, notwithstanding its exploitation in a number of patents relating to bleaching methods. A number of proprietary bleaching compounds have recently been brought out in Germany chiefly for the purpose of selling for household use, in garment cleaning, bleaching hats, feathers, etc.

Among these compounds are "Clarax," which appears to be a mixture of 20 per cent. sodium perborate, 25 per cent. borax, and 55 per cent. sodium phosphate, though these exact proportions are not always adhered to;

"Persil" is a mixture in about the following proportions: 20 per cent. soap, 33 per cent. soda ash, 7 per cent. silicate of soda, 10 per cent. sodium perborate, and 30 per cent. water. "Ozonit" is a similar compound containing approximately 38 per cent. soap, 3 per cent. silicate of soda, 23 per cent. soda ash, 26 per cent. of water, and 10 per cent. of sodium perborate. Patents have also appeared describing the use of sodium perborate for the bleaching of textiles in a circulating kier, the sodium perborate being mixed with the caustic alkalies employed in boiling-out. Whether or not any of these methods are in practical operation for ordinary purposes of textile bleaching, the present writer is unable to say.

The principle of bleaching with sodium perborate is similar to that of using sodium peroxide or hydrogen peroxide. In the case of sodium perborate, the solution is only mildly alkaline in contradistinction to solutions of sodium peroxide, which are strongly caustic. The effective bleaching agent, however, in all these cases is hydrogen peroxide, as when its solution is brought into bleaching activity, sodium perborate forms hydrogen peroxide. The cost of using sodium perborate as a bleaching compound would probably be as high, if not higher, than that encountered in the use of hydrogen peroxide itself.

Sodium phosphate is generally employed in connection with the sodium perborate, presumably to increase the alkalinity of the solution without making it caustic, as the bleaching activity (through the formation of hydrogen peroxide) is much greater in an alkaline solution. It is also recommended to treat the material to be bleached to a previous bath of sodium bicarbonate. This also aids to increase the alkalinity of the bleaching solution. This method has been suggested for the bleaching of artificial silk, in which industry it is probably used to some extent, though exact information on this subject is not obtainable.

Sodium percarbonate is also suggested as a bleaching agent similar in its effect to sodium perborate, but there is no indication of its being employed in a practical scale.

Howell.

Calculating Cost of Sateen.

Editor Textile World Record:

Please give us a method of calculating cost on a 36 inch, 64 by 80, 5.10-yard sateen made with a 34 warp, based upon a specific price for yarn weaving, etc. Adams (1197).

Certain costs in this case will have to be assumed, because there are variations in nearly all mills:

64 × 36 + 32 for selvage = 2,336 ends.

2,336 × 100 yds. + 7% = 249,952 yds. of warp.

249,952 ÷ (840 × 34) = 8.75 lbs. of warp in 100 yds. of cloth.

(38" × 80 × 100) ÷ (33 × 840) = 10.96 lbs. of filling.

8.75 + 10.96 = 19.71 lbs.

100 ÷ 19.71 = 5.06 yds. per lb.

8.75 ÷ 19.71 = 44% warp and 56% filling.

Cotton, $.16 × 44% = .0704 warp cost of stock per lb. Cotton $.16 × 56% = .0896 filling cost of stock per lb. Total .16.

Assuming the cost of warp to be (.055 × 44%) .0242, and cost of warp filling to be (.06 × 56%) .0336, total cost would be .0578.

Production (160 × 60 × 56 × 75%) ÷ (80 × 36) = 140 yds. per week, 140 × 5 looms = 750 yds.

Allowing $10 as the base for weavers' wages, we get $10 ÷ 700 = .0142 cost per yd. Assuming the oversight per loom at .35 ÷ 140 = .0025 per yd.

.0142 weaving + .0025 oversight = .0167 × 5.1 yds. per lb. = .0851 cost of weaving and oversight.

Assuming the general expense per loom at $1.20 ÷ 140 yds. = .0085 general expense. .0085 × 5.1 = .0435, general expense per lb.

Summary of cost: .16 stock, .0578 labor, .0851 weaving and oversight, .0435 general expense. Total, .3564 per lb.

.3564 ÷ 5.1 = .07 cents per yd., or 35.64 per lb.

As stated above, these are assumed figures and the loss in raw stock, etc., through waste, must not be lost sight of. For example, if 16 cents is paid for 1 lb. of cotton, the item marked "stock" will be more than 16 cents.

Jean Paul.

Knitting Department

THE KNIT GOODS SITUATION.

At the present time the knit underwear jobbers are busy making their fall shipments and in getting their travelers started to solicit business on their spring lines. The deliveries of heavyweights are being made fairly near to dates specified, and up to the present time there has been very little complaint made on account of the qualities of the goods delivered, although the conditions are such as might have a tendency toward poor deliveries.

A few duplicate orders on fifty-cent grades of ladies' ribbed vests and pants have been placed during the past month, but in most cases manufacturers are not in a position to promise deliveries much before the middle of October. Men's fleeced and ribbed goods may be bought for delivery in ten days to two weeks, and at the same prices as at the opening of the season. Manufacturers offering these will tell a buyer they are being made at a loss, which indicates that there is a shortage of orders on these lines.

The jobbers throughout the country seem to have placed all the orders for spring goods that they care to until they can see some activity on the part of the retailer to place business with them. Many manufacturers of light weights are still open for orders, although they are not going after them to the extent of making any reductions in their prices. The jobbers have not placed their orders for the full season's requirements, and it is very evident that they must come into the market again in October.

Ladies' straight ribbed vests below a dollar a dozen carry an advance of about five cents a dozen over the opening prices of last year. The Amazon Knitting Company took their regular business quite early on their line of straight goods running from 57 1/2 cents upwards. They show a full tape garment at 62 1/2 cents, and quite a variety of very neat trimmings at from 70 to 80 cents, and one number on which they have taken heavy business is a garment made with a wood silk trim. This, we believe, is the first instance of this material being used for trimming for underwear.

Wilde & Company are showing quite an extensive line of straight vests at advances from 2 1/2 to 7 1/2 cents a dozen. Their line at from 90 cents to a dollar is particularly strong, and have been selected very freely by many buyers. The Spring City & Schuylkill Haven manufacturers are all showing very attractively trimmed line of straight goods from ninety cents to a $1.90. Some of the trimmings that are being used are very good copies of styles that were used last season on the more expensive grades.

A FANCY YOKE VEST.

The Ardsley Mills have a very handsome line of fancy yokes running from $1.75 to $2.37 1/2 made to imitate some hand crocheted designs that were used last season by German manufacturers on fifty cent grades. The Achuff Knitting Company of Philadelphia are in the market with a wide range of elaborately trimmed yoke goods at from $2.50 to $3.50, and we illustrate three designs that get to the retailer for 35 cent grades.

A representative of the German office of one of the large jobbing houses in the West gave it as his opinion that there was not much need of a buyer from his house looking over his collection from Germany when such collections could be had from our domestic manufacturers.

The Ardsley people have taken considerable business on a ladies' straight garment made with a hem stitched top and concealed tape. This will be made in a 25 cent number

A FANCY YOKE VEST.

and is a copy of a fifty cent garment made especially for a large New York retailer last season.

Along with the increase in the demand for ladies' silk hosiery comes an increased call for silk underwear, and vests and knickerbockers made of Italian silk are growing very popular, and are being shown at lower prices than in former seasons. Bateson & Dowd have a line of plain Italian silk vests at from $12 to $15 and the same qualities with fancy embroidered yoke in a wide variety of patterns at from $3.50 to $4.50 additional according to design. They also have a line of knickerbockers with elastic bands at the waist and knees at from $16 a dozen upwards.

It has remained for the Oneita Knitting Company to bring out a new garment for men embracing the features of the two widely advertised lines of the past two seasons. It consists of a union suit the upper or shirt part of which is made of a porous mesh fabric with a lower or drawer part made of nainsook. These get to the retailer for a dollar grade, and we understand that buyers have placed orders very freely on it.

HOSIERY.

While a very few lines of hosiery have been sold ahead as far as the manufacturers deem it advisable on account of the uncer-

A FANCY YOKE VEST.

tainty of the cotton market and withdrawn from sale temporarily at least, the majority are still open and are anxious for business. While everyone seems to feel sure that the advance business booked by jobbers for 1911 delivery will exceed that of 1910, there is a lack of interest in placing large orders that appears all the more strange when the extremely low prices are taken into consideration.

It is evident that buyers are being held back in their purchases by the financial heads, and it is not difficult to imagine what

the effect of this will be if the price of cotton continues to remain up and business is good. It is believed that lace hose will be very popular next season. Liberal purchases were made this season, and there are no stock lots in the market. Orders are being placed freely on the seamless kinds as well as the better quality of foreign laces, and the demand is not only for the boot patterns but many all over patterns are being taken.

There is some reason for stating that embroidered hose are gradually coming into favor again. It is certain that the Chemnitz manufacturers are making quite an effort to revive them, and it is reported from that market that fair sized orders are being placed for them. It is next to impossible to make any prediction as to colors for 1911. It is felt that retailers did not do the amount of business on them during the past season as they did in 1909, and that they are to all appearances on the wane. Tans were only in fair demand and the orders so far placed for next Spring are light. It is claimed that misses plain goods are becoming more popular than they have been in several years, and a great many orders are being placed on them in blacks, whites and colors. Mercerized lisles in white retail at 25 cents per pair and plated silk retail at 50 cents a pair for misses' are also in good demand.

Prices on silk hosiery for men and women have tumbled as low as $3.50 a dozen for some very good qualities, and no doubt a large business will be done on this class of merchandise unless silk begins to advance in price. Full fashion silk goods are also being offered at very low prices and a very good quality thread silk with cotton top, heel, sole and toe may be had as low as $7.

The half hose end of the business is quiet except in the branded lines. Some fancies are being shown for 1911 and some small orders booked on them, but there is more activity on the silk goods which retail at 35 and 50 cents than on most other lines. Greens are no longer in favor and wine color is rapidly following suit. Tans have been rather slow of late but are still on the active list. Slate, grey, heliotrope, purple and navy being the leaders. Embroidered half hose are dead for the time being in anything except the very cheap grades. Linen spliced hose for men, women and children are in good demand and there are many more lines of this class of merchandise being shown for 1911 than were out for 1910.

FULL FASHIONED KNITTING.

BY PAVONIA.

(Continued from August.)

Besides the cam which operates the change of position of the shogging roller, there is still another in connection with the shogging device. This operates the chain wheel by means of a ratchet which moves the chain one link at each revolution of the cam shaft. This makes it very simple to cause a change from the knitting motion, as any link can be fitted with a narrowing stud. If the catch as shown in Fig. 49 is lifted by a narrowing bit, the lower end of the catch will assume a position that will allow the shogging lever to move. The actual position shown in Fig. 49 is when the narrowing bit or stud has removed the catch, allowing the lever to fall into the position it assumes when a fashioning is taking place.

When the fashioning cams are in use, the entire knitting motion is discontinued. The motion that the cams give to the levers naturally ceases when the cams change their path, but all that part of the machine pertaining to the drawing of the course, moving carriers across etc. must be at rest while the fashioning is taking place.

In order to disconnect the drawing motion from the moving machinery, the beveled gears shown at 12a, fig. 8, are made free. This occurs when the shogging takes place. The small gear is driven by a clutch fastened to the cam shaft. The small gear is not fastened to the cam shaft although it takes precisely the same motion. This gear does not move sideways with the cam shaft on which it runs, being prevented from doing this by a similar device to that shown at G, Fig. 50. This device is fastened to the frame of the machine and one end fits into the

groove in the small gear, as shown, preventing it from moving sideways during the shogging, but not interfering with the revolving motion.

When the shogging takes place, the movement of the shaft withdraws the clutch from the gear, which is left idle, allowing all parts which depend on it for their motion to be at rest. When the fashioning is finished and the cams shog back, the clutch engages the gear again and begins to draw a course.

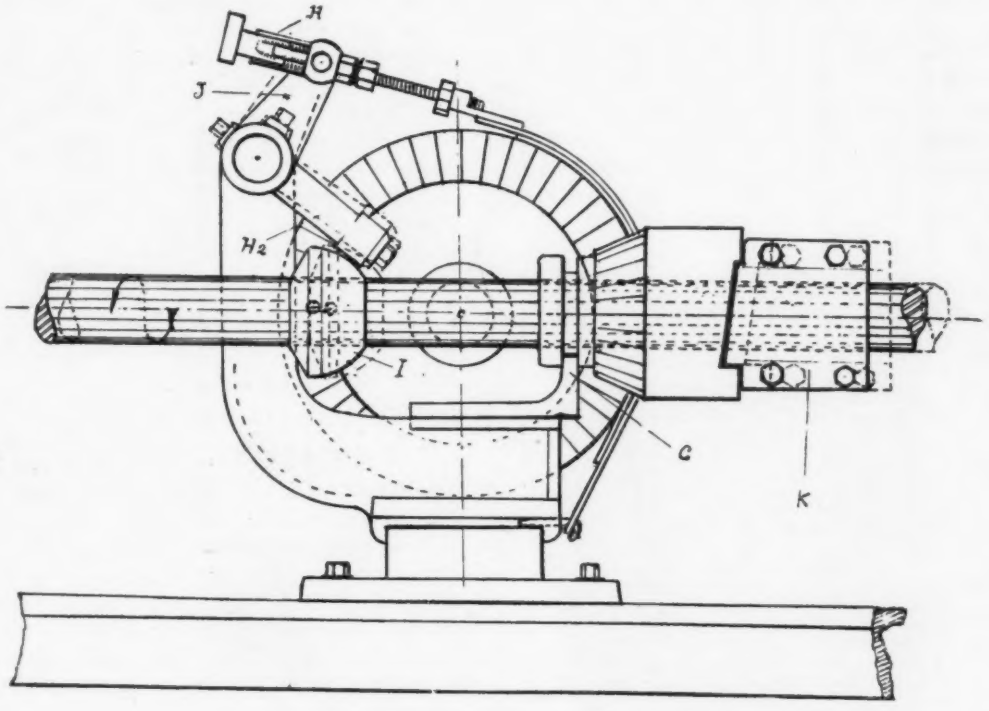


FIG. 50.

One feature of this clutch arrangement has been subject to a number of changes by the various manufacturers of Cotton machines. This is the method by which the small gear is held when the clutch leaves it, so as to be in position to receive the clutch again. The Textile Machine Works have a patented device on their machine for this purpose and it gives excellent satisfaction. Fig. 50 gives an idea of this arrangement. It is shown as it appears when the knitting is taking place, with the dotted lines showing the fashioning position. When the knitting is taking place, the brake band can be so adjusted as to transmit the pressure from a spiral compression spring enclosed in the tube, H, to the brake surface on the large beveled gear. The friction band remains in very light contact with the brake surface except when the shogging has taken place, at which time the arm, H, is lifted up by cam, I, causing arm, J, to tighten the brake band as indicated. The dotted lines show the clutch disengaged. In this position the clutch and the cam shaft revolve while both the gears remain at rest, held rigid by the powerful brake band.

An English plan has been to have a nose of steel connected to the camshaft, insert itself between the two teeth of the small gear for the purpose of

keeping the gears stationary during the fashioning. Various other arrangements of slots and projections have been devised with the object of making this clutch safer in action, or to lock it securely while the fashioning is made in the exact position to receive the clutch again. It is not a frequent occurrence for a clutch to miss, but knitters look to this point as one of the danger spots on the machine. If this does happen, it generally results in the slipping of the set screws which hold the clutch on the shaft, and the cams are then prevented from shogging back into place. In such a case very serious trouble is liable to occur and in many instances a breakage of some part of the machine has added difficulty to the general upset of the cam motions. It is apparent that any improvement tending to make the clutch safer in action is an advance in machine construction.

Fig. 50, K, shows a decided improvement in the manner by which the shogging clutch is held fast to the cam shaft. This method of fastening the clutch has been adopted by the Textile Machine Works on their full fashioned Cotton machines. It has been customary to fasten the clutch with set screws and much trouble has resulted through these screws slipping and cutting grooves in the cam shaft. The improvement is in the shape of a detachable clamp clutch made in two sections, instead of the one piece clutch which has to be slipped on the shaft from the extreme end.

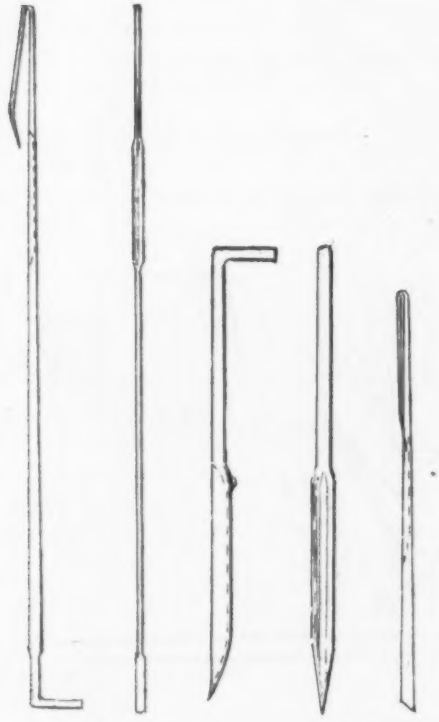


FIG. 51. FIG. 52. FIG. 55.

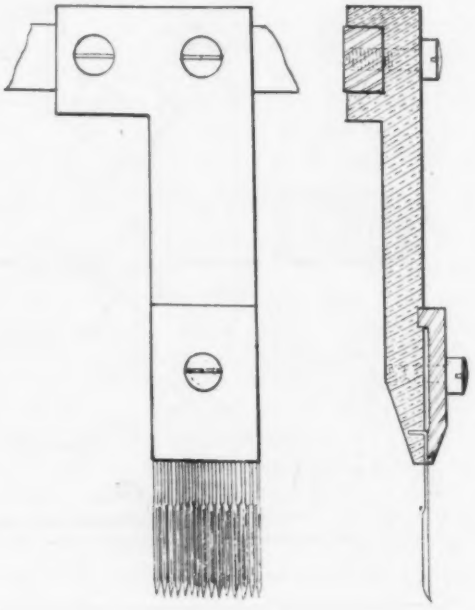


FIG. 53.

Fig. 52 shows a Cotton-system fashioning point as used in the fashioning of full fashioned hosiery. There are so few machines in America making fashioned goods on which widening takes place in the fashioning process that the points almost without exception are called "narrowing points." When

the widening is brought into action, however, as is necessary for instance on full fashioned drawers where the ribs are transferred to the fashioning machine, other points are brought into action which are not used on the ordinary modern Cotton stocking machines. These are called "filling-up-points," and their duty is to fill up the holes in the fabric which are caused by the widenings. The point, Fig. 52, however, is a widening point in the same sense that it is a narrowing point, the same points being used for both kinds of fashionings.

In the construction of the automatic narrowing apparatus, it is necessary that there shall be for the leg machine a device in the shape of a point holder into which can be inserted 14 to 20 narrowing points, as shown in Fig. 53. Two of these holders or fingers are required for each section. On an 18-section machine there would be 36 fingers, which would contain in the neighborhood of 700 points.

(To be continued.)

AN ELASTIC KNIT FABRIC.

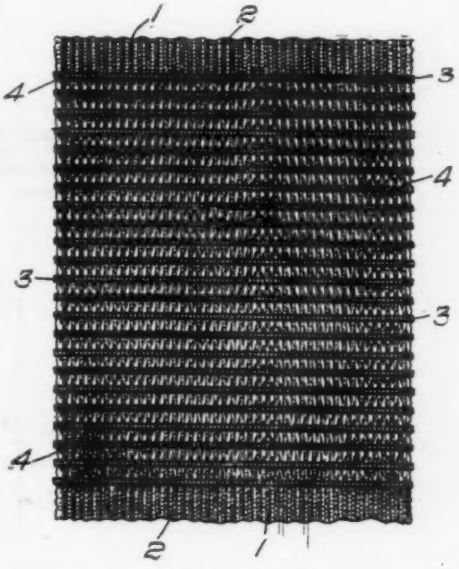
A method of making an elastic knit fabric to which the rubber is applied after the cloth is knit, has recently been patented and is described by the inventor as follows: The fabric, which is as elastic as knit cloth in which the rubber is incorporated during the knitting process, may be knit ribbed or plain on the ordinary types of knitting machines, the rubber being applied after the knitting operation is completed.

The illustration shows a fabric whose back ground or body is knitted, and hence is provided with wales, 1, and courses, 2, at right angles thereto, the fabric being elastic in the direction of said courses.

To either face of the knitted fabric one or more elastic and preferably rubber strands, 3, are secured by applying one end of the strand or strands beneath the presser foot of a sewing machine, and then sewing the strands by rows of stitches which are elastic longitudinally of the knitted courses. These elastic stitches are represented diagrammatically, but they may be of any suitable nature, such for example as the interlock stitch of the Union Special machine or an overlock stitch, or the stitch known as cross or zigzag or any form of the elastic stitch made by sewing machines. Such stitches are freely elastic in the direction of the length of the rows of stitches and therefore the inherent elasticity of the knitted fabric is not impaired by the sewing stitches.

A number of rubber or other suitable strands may be simultaneously, in which case a number of needles corresponding to the number of strands are used; a less number of needles acting in succession upon the successive strands may be employed, or if desired the strands may be introduced singly.

It is apparent that if the strands be applied to a circular fabric, such for example as a



AN ELASTIC KNIT FABRIC.

stocking, they may be attached by spiral rows of stitches, the rubber strands passing around the fabric. If, however, the strands are applied to a flat fabric, they may extend to and fro upon the face of the fabric, for which purpose the knitted fabric may be reversed at the end of the formation of a row or rows of stitches. Thus, it is unnecessary to sever the rubber strands at the edges of the fabric. If desired, however, the rubber strands may extend merely from edge to

edge or through any desired portion of the fabric and not passed to and fro.

It is apparent that the rubber strands need not be applied throughout the entire width of a knit fabric; that is, from edge to edge of a flat fabric, but may extend over merely a limited portion of the surface, so as in effect to form a gored or gusset portion, in which event, the laterally adjacent portions of the fabric consist merely of knitted stitches.

KNITTING RIB TOPS.

A process of knitting rib tops on circular half hose, recently patented, is described by the inventor as follows: In the manufacture of circular knitted half hose, and other circular knitted goods in which a ribbed portion is united with other portions of fabric knit in plain stitch or any stitch other than rib work, it is customary to knit the rib portions or "tops," either singly or in a continuous strip which is severed into individual tops or cuffs; to run on one course of the rib work upon the needles of a circular knitting machine; to ravel back the lower edge portion of the cuff or top until the course upon the needles is reached, and to knit with the machine into and from such transfer course, thus uniting the cuff or top directly to the body of the fabric.

It is customary to provide these cuffs or tops with a selvage welt or welts at its outer end and with a course of loosely knit stitches adjacent to the other end to facilitate their being "run on" to a transfer ring, by which they can be transferred to the needles of a knitting machine, or directly upon the nee-

FIG. 2.

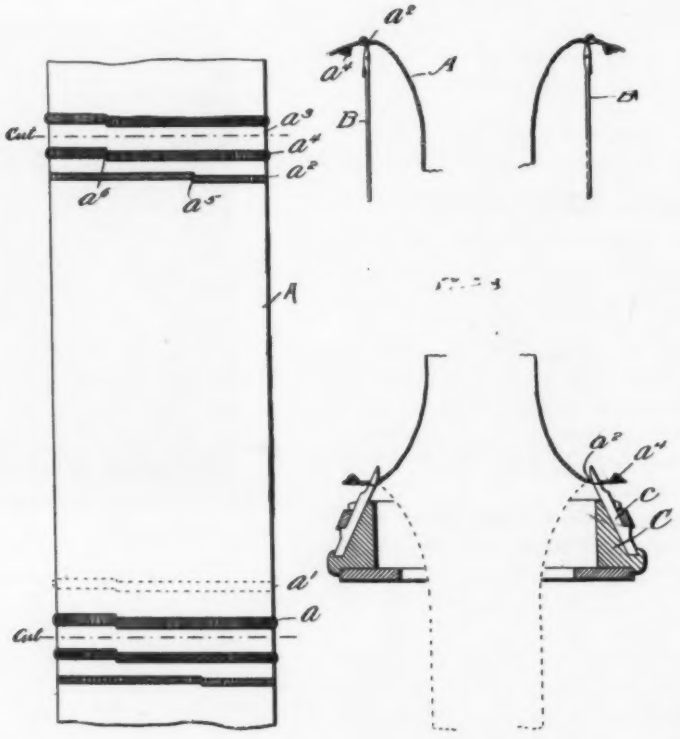


FIG. 1.

FIG. 3.

dles of the machine. It is usual to continue the knitting of the cuff or top for a considerable distance beyond the loose course of stitches, to form a marginal portion which facilitates the running on of the cuff or top, as it gives the operator something to take hold of (where the operation is performed by hand) and prevents the undue stretching of the transfer course of stitches. This marginal portion is afterward raveled back as before stated to the loose course or transfer course, and the yarn so used is wasted.

In carrying out the improved process of knitting, the ribbed top is first knit with the usual selvage welt or welts at one end, and a transfer course adjacent to the outer end, preferably a loose course of stitches. Below the transfer course a very short marginal portion is knit in which an extra welt is formed, which is used in transferring the rib top onto a transfer ring or the needles of the knitting machine. It is then raveled out, and does not appear in the stocking.

Fig. 1 is a view of a rib top or cuff provided with the extra welt. Fig. 2 represents the manner in which the extra welt assists in running the top or cuff onto the needles by hand. Fig. 3 is a similar view, illustrating the manner in which the extra welt assists in running the top or cuff on to the quills of a transfer ring. Figs. 4, 5 and 6 illustrate the manner in which the extra welt cooperates with the parts of a transferring machine, in positioning the cuff, and insuring the accurate transfer of all the stitches of the loose or transfer course. Fig. 7 is an enlarged

FIG. 4.

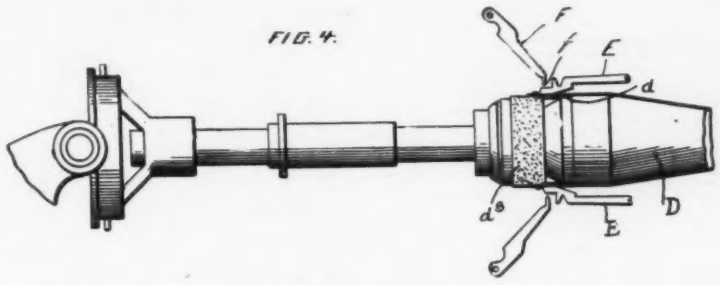


FIG. 5.

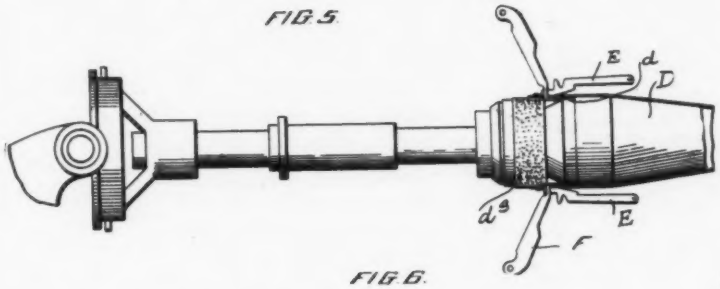
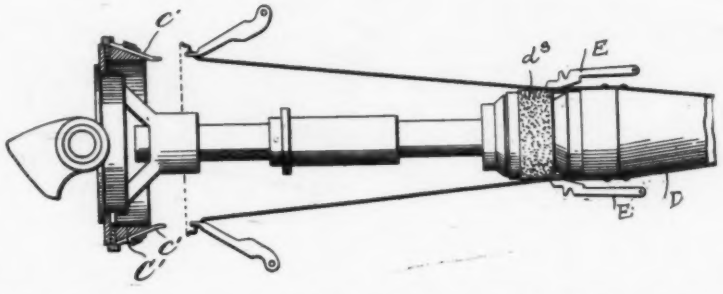


FIG. 6.



detail view of a portion of the rib top, and portions of the transferring machine. Fig. 8 shows the reinforcing action of the extra welt, when the alternate stitches of the transfer course are expanded and held on the transfer levers of the transferring machine. Fig. 9 is a view of part of a transfer ring

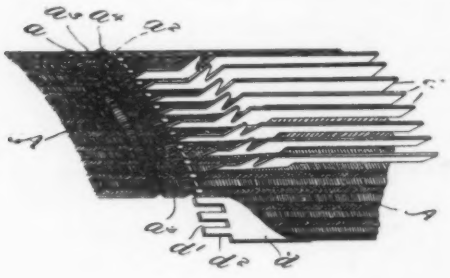


FIG. 7.

which is employed in the transferring machine.

A rib top or cuff, which may be formed singly or in a continuous fabric, is first knit, one of which is illustrated in Fig. 1. The cuff or top, A, is provided at one end with the usual selvage welt, a, or any desired number of welts as indicated at a' in dotted lines; adjacent to the other end is a transfer course, a^2, of loose stitches. Beyond the transfer course, and between it and the end of the cuff or top, or the line of cut indicated by dotted line, a^3, where the cuff or top is to be severed from the next adjacent cuff or top, an extra or positioning welt, a^4, is knit; this is located at a definite number of courses beyond the transfer course, and in that part of the cuff or top which is to be raveled out, and which is called the "raveling margin." This raveling margin is made of a less number of courses than is usual where the extra welt, a^4, is not employed, and there is consequently less waste of material in raveling the same.

Where the transferring operation is to be performed by hand as illustrated in Figs. 2 and 3, either in connection with the needles, B, of the knitting machine directly, Fig. 2, or in connection with the quills or points, c, of a transfer ring, C, Fig. 3, the extra or positioning welt, a^4, will afford the operator a raised surface, easily engaged by the nail of thumb or fingers, to enable the outer margin of the cuff or top to be securely held; it will also assist the operator in running on the transfer course, as the welt, a^4, is throughout a definite distance from the course to be transferred.

After the top or cuff has been transferred to the needles, B, of the knitting machine, either directly or by the use of the transfer ring the marginal portion including the extra or positioning welt, a^4, is raveled out, until the transfer course is reached, when the knitting machine is started and knits the body of the fabric upon the top or cuff.

Where the rib top or cuff is run on or transferred by means of a transferring machine, the guiding and positioning devices thereof, usually termed "registering bits" are made to engage the extra positioning welt, and thus draw the cuff or top into such position that the stitches of the transfer course will be taken by the transfer levers. When

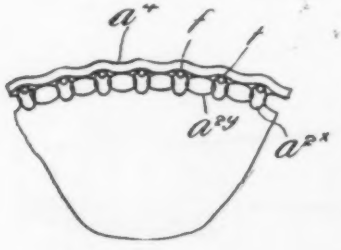


FIG. 8.

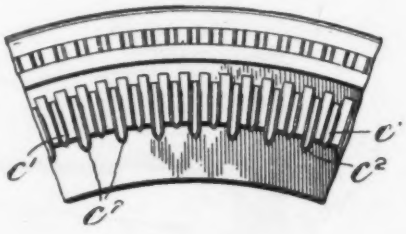


FIG. 9.

the transfer levers are opened out to expand the web, and align the stitches of the transfer course with the points of a transfer ring, or the needles of a knitting machine, the extra welt, a^4, will prevent the undue stretching of the transfer course, as the edge of the welt toward the transfer course of stitches is in the nature of a selvage, and the fabric cannot be raveled from that direction.

D, Figs. 4 to 6, represents the mandrel of the topping or transferring machine, which is provided with a metal ring, d, having a plurality of slits or apertures, d', forming a series of projections, d^2, which lie beneath the alternate stitches of the transfer course, as clearly shown in Fig. 7. The mandrel is also provided with a brush portion, d^3.

E, E represents a circular series of longitudinal registering bits, which lie in the grooves between adjacent wales of the fabric and guide the same to keep it from twisting. These bits, E, E, are moved into engagement with the extra or positioning welt, a^4, Figs. 4 and 7, in the operation of the transfer machine, thus pushing the stitches of the loose course, a^2, into an exact and predetermined relation with the points of the transfer levers, F, and clamping the fabric between the bits, E, E, and the projections, d^2, of the mandrel so that the points of the transfer levers may enter between the bits, E, E, and pass down through the alternate stitches of the transfer course and into the recesses, d', in the mandrel ring, D, Figs. 5 and 7. The transfer levers are then operated as indicated in Fig. 6 to expand the web, and bring the stitches of the loose course in position to be placed upon the points of a transfer ring, C'. It will be seen how the positioning welt, a^4, takes the strain of the transfer levers upon its selvage edge, and prevents the undue stretching, or the possibility of raveling, of the loose course.

Fig. 8 also illustrates the manner in which the extra welt acts in conjunction with the transfer levers. In this figure the points of the transfer levers are illustrated at f, and engage the alternate stitches, a^{2x}, the strain on the fabric being communicated to the extra welt, a^4. It will also be seen by reference to this figure that the extra welt acts to support the intermediate and alternate stitches, a^{2y}, not engaged by the transfer levers, and holds them in a definite relation with the stitches, a^{2x}, so that all the stitches of the transfer course can be accurately and simultaneously placed on the points, c', c^2, of the transfer ring, C', which, as shown in Fig. 9, has alternating points, c', in one circle to receive the stitches, a^{2x}, and the intermediate points, c^2, in a circle of slightly less diameter, to receive the stitches, a^{2y}.

The top or cuff is transferred from the ring, C', to a circular knitting machine, the marginal portion including the extra or positioning welt is raveled out, and the body of the fabric is knit into and from the transfer course, a^2, as previously described. In knitting the rib top or cuff, it is preferable to have the "jog" in the loose course of stitches, Fig. 1, a^5, at a different point in the circle of the fabric from the jog in the extra or positioning welt.

KNITTING MILL NEWS.

New Mills.

*New York, Buffalo. The Western New York Knitting Co., recently incorporated with capital stock of $8,000, has equipped a plant at 32 B St., where they are manufacturing a line of knit goods with R. E. Holzhey as president.

*North Carolina, Cooleemee. The mill building for the North Cooleemee Hosiery Co. is practically completed and machinery is arriving. It is expected that they will begin manufacturing early in September. This company was incorporated in April with capital stock of $20,000 and succeeds J. M. Greenfield of Kernersville. Mr. Greenfield is secretary and treasurer of the company.

North Carolina, Henderson. A. C. Allgood, who has been superintendent of the Henderson Cotton Mills for some time, has begun the manufacture of ladies' hosiery, selling the product in the gray.

*North Carolina, Hickory. A building is being erected for the newly incorporated Elliott Knitting Mills and it is hoped to begin manufacturing by Sept. 1. The company will manufacture a medium grade of infants' hose of a quality which, it is said, is not being made now in the South. The capital stock is $25,000. J. D. Elliott, P. P. Jones, Hubert Lyerly and H. J. Holbrook are interested.

*North Carolina, Newton. The Newton Hosiery Mills, which recently passed into a new management, will be operated as the Fidelity Hosiery Mills. It is expected to start the mill about the middle of September. R. P. Freeze is the secretary and treasurer.

Ohio, Ashtabula. E. O. Boli, general manager of the Mentor Knitting Mills of Mentor, O., has resigned this connection and is negotiating with the Chamber of Commerce at Ashtabula for the location of a knit underwear mill here. The prospectus will be issued within a week and the proposition will be taken up with the business men of the city.

*Oklahoma, Osage. Browne Cornelison, 406 Security Bldg., Oklahoma City, the leading figure in the organization of the new knitting mill, states that construction work has been started on the building. A charter has been secured for the American Hosiery Co., the name under which the mill will operate, with capital stock of $100,000. The men interested with Browne Cornelison are Wallace Swigert, Oklahoma City, and G. L. Grace of Reading, Pa.

Pennsylvania, Dover. D. S. Brillhart has established the Dover Hosiery Mill on Main St. and is manufacturing men's seamless half hose on 10 knitting machines, 2 ribbers and 3 loopers, giving employment to 9 hands.

*Pennsylvania, Easton. Work has been started on the erection of the new buildings for the Gold-Wiley Hosiery Co. of Tatamy. It is expected to have the buildings completed in 60 days. They will install 70 new machines.

*Pennsylvania, Easton. Material for the buildings of the new Easton Knitting Mills has arrived at the site on Packer St. and work of building will be rushed to completion. There has been a delay of over a month in the securing of materials. Some of the machinery for the new plant will be brought from Reading, and some new equipment will be ordered. The company was incorporated with capital stock of $10,000 last April. Men's, women's and infants' hosiery will be manufactured.

Pennsylvania, Philadelphia. The Greenpoint Knitting Mills, with J. Bloom and M. Rosenblatt, formerly of Brooklyn, N. Y., as proprietors, are installing four flat knitters and three sewing machines at 1019 N. 2d St., on which they will manufacture sweater coats, using 2/14, 2/15, 2/18 and 3/18 worsted yarn. The production will be sold direct.

*Pennsylvania, Philadelphia. The Haines Hosiery Mill, a plant recently reported by us as to start operations at Wayne Junction, have located in the Bradbury Mills on Bristol St., above Germantown Ave., where they have installed 4 39-gauge full fashion machines, 2 loopers and 2 seamers, which they will operate on high grade silk hosiery, which they will finish and sell direct. Joseph Haines, Jr., is the buyer.

Pennsylvania, Philadelphia. Messrs. Heller & Heller, both of whom were formerly employed by the Alpha Knitting Mills in this city, have leased a portion of the building at 136 N. 3d St., where they have installed 5 knitters and 3 sewing machines, on which they are manufacturing sweater coats, selling direct, and using 2/20 wool and worsted yarns.

Pennsylvania, Sinking Springs. John K. Savage and Lewis Gring will start a new knitting mill under the name of the Sinking Springs Knitting Mills. Mr. Savage is a member of the firm of Savage Bros., proprietors of the Sinking Springs Roller Mills and Mr. Gring operates a hosiery mill in Sinking Springs.

*South Carolina, Aiken. The Carolina Manufacturing Co. has been organized with capital stock of $10,000; W. H. Hite, president and Herbert E. Gyles, secretary and treasurer. As previously mentioned, this is the plant in which Mr. Hite has been actively interested in organizing for manufacturing hosiery.

Enlargements and Improvements.

*Georgia, Berryton. Organization has been effected by the Berryton Mills, the new company which took over the Racoon Mfg. Co.'s plant at Racoon Mills, Ga., with John M. Berry, president, John M. Cheney and C. Cleghorn, vice-presidents, and H. R. Berry, secretary and treasurer. Plans are being completed for changes which will be made in the mills, which will include putting the old buildings in first class condition and installing machinery to turn out 1,200 dozen of ladies' and misses' hosiery per day. Later a new mill will be put up.

*Michigan, Bay City. Work is nearing completion on the new addition for the World's Star Knitting Co.

*New Jersey, Riverside. Contract has been awarded for the new plant to be erected here by W. F. Taubel, manufacturer of hosiery. The latest improved machinery will be installed.

New York, Amsterdam. The plant of the Gardiner & Warring Co., which has been closed for several weeks, has resumed manufacturing in full. During the shutdown general repairs have been made and an addition constructed.

*New York, Herkimer. Work has been started on the new bleachery for the local plant of the Union Mills, known as the Gem Department. The building will be two stories high, 40 by 90 ft.

New York, Hudson. Plans are now being drawn for an addition to the plant of the Swansdown Knitting Co., 72 by 97 ft., to be used for picking, carding and spinning rooms. The new building will be of reinforced concrete and brick construction and will be completed as soon as possible. Construction work will probably be started before Sept. 1.

*New York, Newport. The Mohawk Valley Cap Factory, which has taken over the plant of the Newport Knitting Mill, will start operations next week.

New York, New York City. The Giant Knitting Mills, manufacturers of sweater coats, bathing suits, etc., at 110 Grand St., will move to 467 Broadway, with an entrance at 112 Grand St., next to their present location. The new quarters will give additional space.

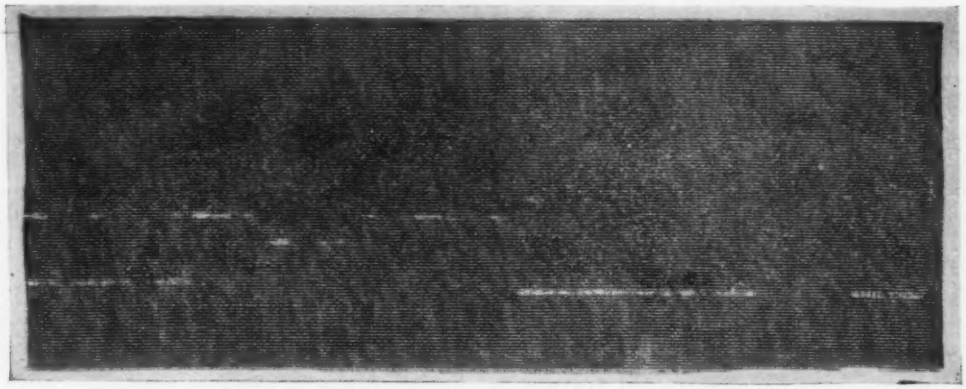
New York, New York City. The Puritan Knitting Mills, 49 Walker St., will begin the manufacture of men's sweater coats next season. Heretofore they have made women's and infants' sweater coats.

Dyeing, Bleaching, Printing, Etc.

DAMAGE CAUSED BY IRON IN BLEACHING TUSSAH SILK.

BY JAMES CHITTICK.

The immense demand that has developed for fabrics into which tussah silk enters has brought into the market many cloths made wholly, or in part, of this material. The great majority of these goods are dyed in the piece and, as a preliminary to the coloring, a boiling-off and bleaching process is necessary. If simply boiled-off, the dark color of the tussah is not much lightened; a single bleach may give a nice ecru shade; a double bleach may reduce the color to a champagne tone; while still further bleaching may bring the material to a greyish white, similar to the shade known as oyster white.



WHERE THE WHITE LINES ARE SEEN THE DARK COLORED TUSSAH FILLING HAS VANISHED, LEAVING ONLY THE WHITE WARP ENDS.

As the brownish color of tussah is very tenacious, old fashioned bleaching methods do not avail, and it is necessary to use the modern and more expensive peroxide bleaching agents for the purpose, as they are much more active in their effect and certain in their operation. The peroxides generally employed are peroxide of hydrogen and peroxide of sodium, the latter being the cheaper.

If the silk to be bleached, whether ordinary silk, or tussah, or in fact any silk—though tussah is the silk for which peroxide bleaching is generally used—has been sufficiently in contact with iron, or iron rust, so that it is impregnated or affected by it, the action of the peroxide upon the parts of the fiber which have taken up the iron will be so energetic as to weaken or entirely destroy the silk in such places. The effect of this action may be well observed in fabrics made with regular organzine or greze warps, in which tussah tram has been used for the filling. If contaminated in places by iron, there may be found in the pieces, after bleaching, places where damages covering one or many pick will run right across the piece, the effect being as if the filling picks, in whole or in part, had been pulled out in the picking. The portions of the filling threads remaining will be found to be quite rotten, while the warp ends at such places will remain as sound as in other parts of the fabric. If, however, the iron deposit on the tussah fiber is very considerable, it may, when the goods are wet out, impregnate with the iron in places the surrounding warp threads, which in time will be destroyed in such spots, making occasional holes or cuts along the line of the damaged picks.

Similarly, if water from a rusty ceiling should drip on any silk fabrics, tussah or

otherwise, that were to be bleached with peroxide, local damage of the same nature would occur, affecting in that case both the warp and filling, as both of them would be affected by the iron.

Iron deposit may reach the fiber in different ways during the throwing. The soaking of the silk may be done in iron tubs, or the wet silk may be allowed to stand on rusty tin or other metal. It may be wound damp and may be still damp when taken up on the iron-head bobbins, on which, if it stood for some time, it might get affected. Rusty drips may reach it, particularly in the steam box, if it has to be steamed, or in the steam stretching machines if the skeins need stretching. If steamed on iron-head bobbins and allowed to stand it might also take up iron there. In the drying room, too, there may be drips from the heating coils. It would therefore seem to be judicious that whenever tussah silk is sent out to be thrown the throwster should be carefully warned on this point, and that if thrown tussah silk is bought enquiry regarding this should be made of the seller. In default of some guarantee in the matter from the throwster any losses arising from this source—and they can be heavy—will fall upon the shoulders of the manufacturer though he is in no way responsible for them.

A NEW MERCERIZING MACHINE.

From Uhlands Technische Rundschau.

(Translated from the German by the Editor of the Textile World Record.)

In order to obtain a high luster on mercerized cloths it is necessary after the impregnation of the goods to stretch the fabric well and in that condition to remove the caustic solution by a thorough rinsing. All processes involving a low tension of the cloth results in an unsatisfactory luster and for that reason have been abandoned. The stretching and rinsing of the goods is now generally effected on tentering machines which, however, present a number of objections and make the mercerizing process both difficult and expensive. The new Heberlein-Gebauer mercerizing machine built by Fr. Gebauer, Berlin, and for which A. W. Buhlmann, 487 Broadway, Silk Exchange Bldg., New York, is the American agent, has been designed to overcome these difficulties. Chains and clamping devices are dispensed with and the tension can be easily adjusted to suit varying conditions.

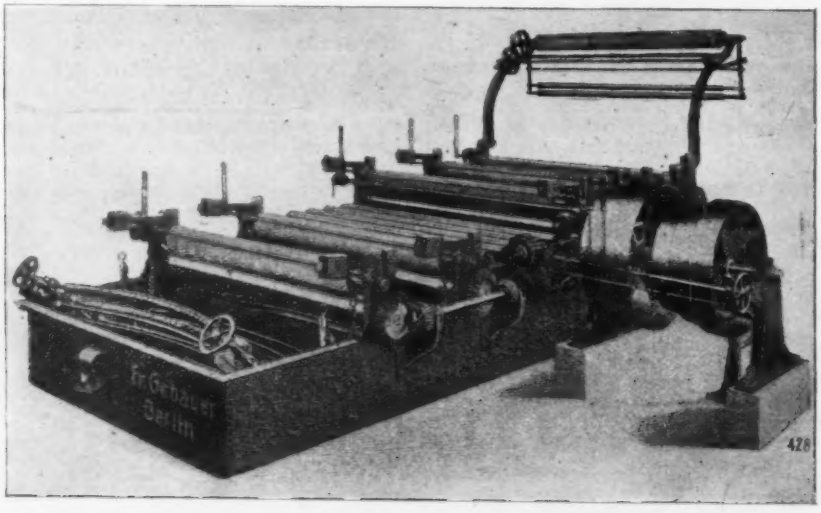


FIG. 1. A NEW MERCERIZING MACHINE.

This machine, shown at Fig. 1, consists (a) of an impregnating calender by which the cloth is saturated with the caustic solution, and (b) several iron tanks arranged one in front of the other in which the cloth is stretched by a special device without clamps

or chains. During the passage through these tanks the goods are rinsed in water and subjected to the action of a steam jet by which the caustic is thoroughly removed. The main feature of this machine is its simplicity due to dispensing with a number of parts, such as clamps and chains, that are in the ordinary machines and which frequently get out of order and cause damage to the goods. Furthermore it is not necessary to stop the machine in order to adjust it to goods of different widths, it being possible to make this adjustment while the machine is running.

This feature naturally facilitates the operation of the machine and results in a reduction

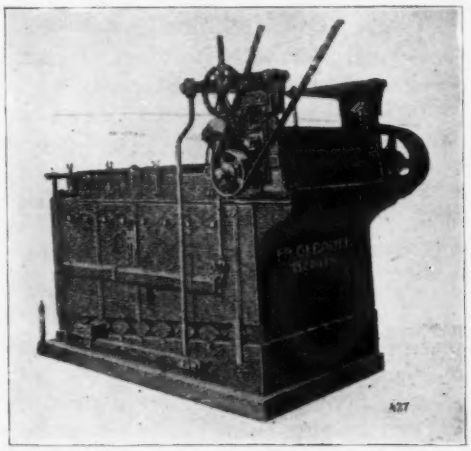


FIG. 2. MACHINE FOR RECLAIMIMG THE CAUSTIC FROM MERCERIZING LIQUOR.

of the labor cost. Owing to the fact that there are no chains to break and that there is no time lost in adjusting the machine to different widths, the production is greatly increased. The simplicity of the machine also results in a reduction of the repairs and the power required. As the current of the liquor runs in the direction opposite to the movement of the cloth, the caustic is not only thoroughly removed, but this is accomplished with a small quantity of water, giving a concentrated liquor from which the caustic can be easily reclaimed. With the ordinary type of machines it has been found impracticable to obtain a complete removal of the caustic. Moreover there is considerable loss of the caustic by sprinkling and by having it carried along by the chains.

Another advantage is the uniformity of the tension throughout the piece as compared with the slack tension that results in the center of the goods when stretched with clamps and chains. The result of this even tension on the new machine is a uniform luster of the mercerized goods. Owing to the ability to change the tension while the machine is in operation the heaviest and lightest fabrics can be mercerized without stopping. It is also possible to stretch the cloth lengthways without affecting the width. This results in a better luster on the warp and a gain of 2 to 4 per cent. in length. Thus all of the difficulties connected with the ordinary type of machine are avoided, such as loss of time by the cloth becoming entangled, damage to the goods by clamps, tearing by reason of uneven tension, slipping of the cloth from the clamps, irregular mercerizing effects and uneven width. Rolling selvages are straightened, opened up, well mercerized and ironed out on the Heberlein-Gebauer machine. The machine will also mercerize tubular knit goods. The goods leave the machine entirely free from caustic so that the full width is obtained and the mercerizing effect is not impaired.

The machine shown at Fig. 2 is for reclaiming the caustic. It has been especially designed for this purpose by the builders of the mercerizing machine. The difficulties of reclaiming the caustic have proved so great that in many cases no attempt is made to save it. These difficulties have been overcome by the Gebauer machine. The cloth is run into a steamtight tank where the caustic is removed by steam and water. This gives a concentrated liquor and facilitates the reclaiming of the caustic. The machine is simple and economical in operation and is suitable for any system of mercerizing. It has been thoroughly tested and has given good results as regards both the quality and cost of the work.

Dundee is practically the only remaining seat of the jute manufacture in the United Kingdom, and of the 42,000 people employed in the industry, about 39,000 are in Scotland.

THE DYEING OF COTTON PIECE GOODS.

BY DR. LOUIS J. MATOS.

Cotton piece goods are generally dyed by two methods, either in a jig or in a padding machine, though sometimes in a continuous dyeing machine, the former being most extensively employed for the reason that it is easily operated, works rapidly and at the same time uses but a small volume of dye liquor. It is well adapted for the dyeing of medium shades and is almost exclusively employed for the dyeing of blacks on certain classes of cotton fabrics. The padding machine is principally used for pale and medium shades.

The character of the dyestuff used for cotton piece goods is divided into two broad classes, the immedial or sulphur dyes forming one distinct and important group, while the diamine or direct dyes form the second group. This latter group, according to the property of the shades desired, may be either applied directly to the cloth with the aid of only common salt or Glauber's salt in the dye bath and finished, or else subjected to an aftertreatment with metallic salts such as bichromate or fluoride of potassium, or diazotized and developed, or coupled. Brief details of these several methods of dyeing will be given below.

In dyeing cotton piece goods by any method, it is necessary that the fabric should be given a preparation according to the nature of the goods, although some classes of fabrics, such as cheap articles, linings, etc., especially when intended to be dyed olive, khaki, grey, black or mode shades, are merely singed and without any further treatment are entered at once, dry, into the boiling dye bath. For medium shades it is, however, desirable that cotton cloth should be previously well wetted out to ensure as complete a penetration of the fabric as possible, and to contribute to the production of level shades.

The wetting out is best done in a boiling bath containing 2 1/2 pounds of soda ash and one pint of soluble oil per each 100 gallons, and without further rinsing the cloth is passed at once to the dye bath.

For very light shades and tints cotton goods are mostly bleached and before being dyed they should be given a weak sour followed by a thorough washing.

DYEING.

According to the weight of the goods and depth of shade desired, jig dyeing requires from 3/4 to 1 1/2 hours, the speed being from 30 to 60 yards per minute, but no fixed rule can be given covering this point. The volume of liquor required is generally twice the weight of the goods to be dyed, but for large rolls it may be less. The dye bath is charged, according to the depth of shade to be dyed and volume of liquor, as follows for each ten gallons of liquor:

For Light Shades.

3 ozs. Soda Ash.
8 ozs. Glauber's Salt Crystals.

For Medium Shades.

3 ozs. Soda Ash.
½ to 1 lb. Glauber's Salt Crystals.

For Dark Shades.

3 ozs. Soda Ash.
2 lbs. Glauber's Salt Crystals.

Very light tints may be dyed without the presence of Glauber's salt, and some dyers prefer to use instead of soda ash, a corresponding amount of phosphate of soda. For light and medium shades dyeing commences at 120° F., with soda and the proper dyestuff already in the bath, after giving the pieces four ends, the Glauber's salt is then added, two more ends given, the temperature in the meantime having been increased to about 180° F. For dark shades and blacks dyed in the jig, the temperature may be brought to the boil.

Dyeing in padding machines, owing to its construction, is best suited for medium and pale shades, while the method of operation is essentially the same. Three general methods of dyeing in this machine are in use, that is, dyeing by several passages of the cloth until the proper depth of shade is obtained; next padding proper, and which is the process of dyeing the goods with as much dye solution

added to the machine as is actually taken up by the goods in one or two passages, as a rule, about 1/2 pound of dextrine per each ten gallons of liquor, together with the requisite amount of dyestuff is employed. Naturally this method of dyeing does not permit of shading during dyeing. The dyer must make proper selection of his colors and completely dissolve them before commencing work. Another method of dyeing in the padding machine is to add the color to the finishing paste and give the goods one or two runs through the liquor.

In large mills or plants where large quantities of blacks and other staple shades are dyed, the so-called continuous dyeing machine is generally used. It consists of a large tank divided usually into four separate compartments, each provided with a pair of squeeze rollers, and a closed steam coil. The first compartment into which the cloth enters is charged with soda ash, and kept boiling, which cleans and prepares the goods for passage through the three remaining compartments which are filled with dye liquor through which the goods pass over and under a series of rollers, the speed being regulated so as to give the cloth an immersion of about three minutes in the dye liquor.

COTTON PILE FABRICS.

Owing to the nature of this class of goods, dyeing over a winch in an open kettle yields better results than by dyeing in a jig or padding machine. Certain classes of cotton goods call for special requirements, and which imposes upon the dyer the necessity of making proper a selection of colors suited to the conditions. A widely used group of dyestuffs possessing remarkable fastness to light, exposure, washing, etc., are the immedial or sulphur colors, either alone or aftertreated. While for less exacting requirements, many of the diamine or substantive colors, when aftertreated with bichromate or fluoride of potassium, or with bluestone, are recommended. Many dyestuffs of this same group possess very good fastness to light when dyed in the ordinary manner with soda ash and Glauber's salt, while for most requirements the straight dyeings without any aftertreatment are amply sufficient.

Heavy cotton fabrics, such as duck, etc., are well dyed upon a jig with the direct colors, while for blacks produced with the immedials, etc., the preference is given frequently to the continuous dyeing machine. For many purposes penetration of color through the fabric is a matter of considerable importance, and the dyer should select those colors which are easily dissolved in warm water. Commence the dyeing at as low a temperature as possible, and adjust the squeeze rolls so as to give uniform pressure throughout the width of the fabric. For some specially hard woven goods the use of a good soluble oil is strongly recommended as a valuable addition to the dye bath.

In all cases, after dyeing, wash to remove excess of dye liquor, and aftertreat if necessary, then follow with a thorough and final wash.

MODERN DYEING CONDITIONS.

BY J. DOBROYD.

(From Dyer and Calico Printer.)

(Continued from August.)

Carboys containing mineral acids are usually stored in a yard. Sulphuric acid loses its strength very slowly even when unstoppered and then only by the absorption of water; on the other hand, nitric and hydrochloric acids quickly lose strength by loss of fumes, and ammonia should always be well corked and away from hydrochloric acid. Some years ago there used to be great difficulty in storing bichromate of soda owing to its strong affinity for moisture, but of late years this fault has disappeared. This is due probably to increased care in the manufacture, and the soda salt is now as dry and reliable as the potash.

Copper sulphate keeps anywhere if away from moisture, but carbonates of soda and copperas lose some of their water of crystalization in a dry room and turn white on the surface by efflorescence. Sumach and myrobalans should always be protected from steam, as these cake very rapidly and when damp are liable to lose strength by decom-

position. Rasped logwood is best kept in a cool cellar, as heat causes rapid fermentation with a total destruction of the coloring matter. Extracts and pastes should invariably be kept covered, since a loss of moisture results in a concentration of strength which in some cases may quite upset the dyers' calculations.

The artificial dyestuffs are very liable to cake in a steamy atmosphere and absorb a considerable amount of water. If much dextrine is present the whole turns to a hard cake. Dextrine is a favorite substance with the color men for letting down the strength of powder dyes. By a judicious mixture they can thus supply the same dye at all prices. Sulphur colors are particularly liable to decomposition from the action of moisture and carbon dioxide, the action of which if prolonged renders the dye practically worthless. Methyl Violet and many of the basic colors absorb moisture and become after a time very difficult to dissolve, while they increase in weight and thus lose in strength exactly in proportion to the absorbed water.

In making solutions of artificial dyes, the rule should always be to add hot water to the dyestuff, and never the dye to the solvent, since this often results in the dye floating on the surface enclosed in air bubbles. Small stains are easily formed by specks of undissolved color, particularly when of a high degree of concentration, and in many cases it is advisable to mix the color to a thick paste with cold water before adding the hot. Stock solutions should, of course, be filtered through a hair-sieve, and basic colors are rendered more easily soluble by the addition of a little acetic acid or spirit. Alkaline blues and violets may have a little soda ash mixed with the solvent, while the best medium for dissolving the spirit colors is acetin.

Under the old name of madder red a fair quantity of pieces is dyed for export, principally cheviots for uniforms, military trousers, and fez caps. The madder root is rarely used now for dyeing reds except by a few of the older school, its place being first taken by alizarine which in its turn has been ousted by the substantive dyestuffs, such as Diamine Fast Red F and Benzo Fast Red. Both these are satisfactorily fast to light, washing and rubbing, and when aftertreated with bichromate are quite fast to milling. With clear bright colors which are required to stand severe milling, the first important condition is that the material must have been scoured perfectly clean before dyeing, so that there is no risk of the dye bleeding into adjacent shades of a lighter blue. The following recipe will give a fast madder shade very suitable for loose wool. For 100 lbs. of wool:

2 lbs. Diamine Fast Red F,
½ lb. Anthracene Yellow C,
¼ oz. Anthracene Chrome Blue F,
10 lb. Glauber's Salt.

After thorough scouring, the wool is entered at 120° F., well worked for half an hour, during which time the dye is raised to the boil. The wool is then worked at the boil for another half hour, after which it should be lifted, 5 lbs. of acetic acid added, and boiling continued until the bath is exhausted. Following this the wool should be again lifted, the bath cooled down to 140° F., 3 lbs. fluoride of chrome added, and the wool worked for half an hour. Benzo Fast Red may also be used along with Chrome Yellow R extra and Alizarine Cyanine G G, roughly in the proportions as follows: 3.5 per cent. Benzo Fast Red G L, .2 per cent. Chrome Yellow R extra, .03 per cent. Alizarm Cyanine G G, and 10 per cent. Glauber's salt. The working and developing is carried out in a similar manner to the preceding recipe, and the shade obtained will be found to be a good solid and fast color.

Half wool shoddy, consisting of half cotton and half shoddy, requires very careful handling since the staple is weak, and only the cheapest methods can be used to make the work remunerative. Dark shoddy is cheaper than light, and in many cases it is necessary to strip the old dye before applying new color, a matter which is very different from stripping known dyeings of uniform composition. Very often the shoddy may contain

material which has been dyed with indigo and alizarin, besides the common basic colors and the wood dyes, so that stripping is somewhat a guessing matter and cannot be done very thoroughly.

On account of expense, hydrosulphite is out of the question as a stripping agent, its place being taken by tin salt and chromic acid, while for stripping blues, greys, and greens, sulphuric acid is used either alone or with tin salt.

(To be continued.)

Dye Recipes

The following recipes appear in the Dyers' Supplement, which is issued each month by the TEXTILE WORLD RECORD. The Supplement contains the colored samples, dyed according to recipes given. The selection of samples is carefully made, and it is the aim to show shades which are of especial interest to the dyer, and which the requirements of the market demand. The Dyers' Supplement is a 16-page pamphlet, in convenient form for preservation. Subscription price for the Dyers' Supplement $1.00 per year.

Recipe No. 129.

Black on Worsted Yarn.

Peerless Fast Black R on 100 lbs. worsted yarn. Prepare the dye bath with

6 lbs. Peerless Fast Black R.
(Kalle & Co., 530 Canal St., N. Y.)
6 lbs. Acetic Acid.

Enter yarn at 120° F., bring to a boil and boil 45 minutes, then add

1 lb. Sulphuric Acid,

and continue the boiling 15 minutes. Finally add

2 lbs. Potassium Bichromate,

and boil 30 minutes longer.

Peerless Fast Black R possesses excellent fastness to light, washing, fulling and all of the common color destroying agencies.

Recipe No. 130.

Slate on Cotton Hosiery.

Tetrazo Fast Slate 2 B on 100 lbs. cotton hosiery. Prepare the dye bath with

6 ozs. Tetrazo Fast Slate 2 B.
(American Dyewood Co., 84 William St., N. Y.)

Enter goods just below the boil. Boil 15 minutes. Add

15 lbs. Common Salt,

and boil 3/4 of an hour longer.

Tetrazo Fast Slate 2 B is a direct substantive color. It produces on hosiery a handsome slate of pleasing bluish tone, of good fastness to washing and excellent fastness to perspiration.

Recipe No. 131.

Tan on Cotton Hosiery.

Tetrazo Brown 3 Y G on 100 lbs. cotton hosiery. Prepare the dye bath with

3 lbs. Tetrazo Brown 3 Y G.
(American Dyewood Co., 84 William St., N. Y.)
30 lbs. Common Salt.

Enter goods just below the boil and boil for one hour.

Tetrazo Brown 3 Y G is a direct substantive color. It produces on hosiery a pleasing shade of tan of good fastness to washing and excellent fastness to perspiration.

Recipe No. 132.

Blue on Worsted Yarn.

Neptune Marine Blue B T on 100 lbs. worsted yarn. Prepare the dye bath with

2 lbs. Neptune Marine Blue B T.
(Badische Co., 128 Duane St., N. Y.)
20 lbs. Glauber's Salt.
3 lbs. Sulphuric Acid.

Enter at 140° F. and dye at a boil for one hour.

Neptune Marine Blue B T gives an excellent shade of navy blue and will be found extremely valuable in the dyeing of ladies' dress goods, particularly with compound shades.

Recipe No. 133.

Brown on Cotton Yarn.

Diamine Nitrazol Brown G F on 100 lbs. cotton yarn. Prepare the dye bath with

4 lbs. Diamine Nitrazol Brown G F.
(Cassella Color Co., 182 Front St., N. Y.)
20 lbs. Glauber's Salt.
1 lb. Soda Ash.

Enter at 180° F. and dye at a boil for one hour. Rinse and couple in a bath made up with Nitrazol C according to directions given in Cassella's Manual of Dyeing, Part 1, pages 41 and 42. If Nitrazol C is not at hand, develop in a bath made up with

1 lb. 14 ozs. Paranitraniline.
3½ lbs. Hydrochloric Acid, 32° Tw.
4½ gals. Ice Water.

When cooled to at least 59° F. add

1 lb. 9 oz. Sodium Nitrate

in concentrated solution with constant stirring and finally diluted to 42 gallons with cold water.

Diamine Nitrazol Brown G F possesses good fastness to light and washing.

Recipe No. 134.

Blue on Worsted Yarn.

Acid Chrome Blue B R N on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Acid Chrome Blue B R N on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Acid Chrome Blue B R N. (Farbenfabriken of Elberfeld Co., 66 Lafayette St., N. Y.)
20 lbs. Glauber's Salt.
3 lbs. Acetic Acid.

Enter at 140° F., bring slowly to a boil and dye at a boil for 1/2 hour. Then add

2 lbs. Sulphuric Acid,

and boil for 1 hour longer. When the dyestuff is exhausted add

1½ lbs. Potassium Bichromate,

and continue the boiling for 40 minutes.

Acid Chrome Blue B R N possesses very good fastness to light, washing, alkali, perspiration, rubbing and good fastness in other resepcts. It leaves white cotton effect threads untinged, as well as scarcely affecting white silk threads.

Recipe No. 135.

Red on Worsted Yarn.

Brilliant Acid Carmine G G on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Brilliant Acid Carmine G G. (Geisenheimer & Co., 189 Front St., N. Y.)
15 lbs. Glauber's Salt.
4 lbs. Sulphuric Acid.

Enter at 120° F., bring slowly to a boil and dye at a boil for one hour.

Brilliant Acid Carmine G G gives a desirable bright red, which is slightly yellower than the other brands of this color.

Recipe No. 136.

Navy Blue on Worsted Yarn.

Sulphon Blue R on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Sulphon Blue R. (Innis Speiden & Co., 46 Cliff St., N. Y.)
10 lbs. Glauber's Salt.
3 lbs. Sulphuric Acid.

Enter yarn cold, bring gradually to a boil and dye at a boil for 1/2 hour.

Should any difficulty be experienced in getting even dyeing, this may be entirely overcome by starting the dyeing with 5 to 10 per cent. of ammonium acetate and adding 2 per cent. of sulphuric acid after boiling for 1/2 hour, and then boiling until bath is exhausted.

Sulphon Blue R is very fast to lights, acids and alkalis. It may be used in conjunction with union colors for topping. It may be dyed on cotton with common salt.

Recipe No. 137.

Black on Worsted Yarn.

Anthracene Chrome Black P P T Ex. Conc. Prepare the dye bath with

5 lbs. Anthracene Chrome Black P P T Ex. (Cassella Color Co., 182 Front St., N. Y.)
10 lbs. Glauber's Salt.
3 lbs. Acetic Acid.

Enter at 160° F., raise to a boil and dye at a boiling temperature for 30 minutes, then add

3 lbs. Sulphuric Acid,

and boil until dye bath is exhausted. Cool the bath, add

3 lbs. Potassium Bichromate,

bring to a boil and boil 3/4 of an hour longer.

Anthracene Chrome Black P P T Ex. possesses excellent fastness to light, washing, fulling and practically all of the common color destroying agencies.

Recipe No. 138.

Blue on Cotton Yarn.

Indanthrene Blue 3 G on 100 lbs. cotton yarn. Prepare the dye bath with

20 lbs. Indanthrene Blue 3 G. (Badische Co., 128 Duane St., N. Y.)
20 lbs. Caustic Soda Solution, 40° B.
5 lbs. Hydrosulphite Powder B. A. S. F.

Add the caustic soda to the necessary amount of water, heat to 140° F., then add the hydrosulphite and dyestuff well mixed in the form of a paste. The bath is then allowed to stand until complete solution has taken place.

Dye for 3/4 of an hour at 140° F. and after the dyeing is completed give a light soaping at 140° F.

Indanthrene 3 G possesses the excellent fastness of the indanthrene colors.

Recipe No. 139.

Green on Cotton Yarn.

Triazol Green B on 100 lbs. cotton yarn. Prepare the dye bath with

2½ lbs. Triazol Green B.
(Geisenheimer & Co., 189 Front St., N. Y.)
25 lbs. Common Salt.
1 lb. Soda Ash.

Enter at 180° F. and dye at a boil for one hour.

Triazol Green B possesses very good fastness for a direct cotton color.

Recipe No. 140.

Green on Cotton Yarn.

Methylene Green B on 100 lbs. cotton yarn. First mordant the yarn by working for 1/2 hour in a warm bath containing

1 lb. Tannic Acid,

and then allowing the material to steep in the gradually cooling bath for at least one hour. Then wring without washing and work in a cold bath containing

1½ lbs. Tartar Emetic.

Then dye in a bath made up with

1 lb. Methylene Green B.
(Badische Co., 128 Duane St., N. Y.)
1 lb. Acetic Acid,

entering at 120° F. and dyeing for 3/4 hour at about 160° F.

Methylene Green B gives a desirable shade of blue, of very good fastness.

Recipe No. 141.

Blue on Cotton Yarn.

Brilliant Copper Blue on 100 lbs. cotton yarn. Prepare the dye bath with

5 lbs. Brilliant Copper Blue G W.
(Berlin Aniline Works, 213 Water St., N. Y.)
20 lbs. Glauber's Salt.
2 lbs. Soda Ash.

Enter at 120° F. and dye at a boil for one hour, then after treat in a bath made up with

3 lbs. Copper Sulphate,
1 lb. Acetic Acid,

working at a boil for 1/2 hour.

Brilliant Copper Blue G W when after treated with copper sulphate possesses excellent fastness to light, but only moderate fastness to washing.

Recipe No. 142.

Yellow on Cotton Yarn.

Triazol Fast Yellow G N on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Triazol Fast Yellow G N.
(Geisenheimer & Co., 189 Front St., N. Y.)
20 lbs. Glauber's Salt.
4 lbs. Soda Ash.

Enter at 180° F. and dye at a boil for one hour.

Triazol Fast Yellow G N possesses very good fastness for a direct cotton color.

Recipe No. 143.

Deep Crimson on Cotton Yarn.

Diamine Nitrazol Bordeaux G B on 100 lbs. cotton yarn. Prepare the dye bath with

4 lbs. Diamine Nitrazol Bordeaux G B.
(Cassella Color Co., 182 Front St., N. Y.)
20 lbs. Glauber's Salt.
1 lb. Soda Ash.

Enter at 180° F. and dye at a boil for one hour. Rinse and couple in a bath made up with Nitrazol C according to directions given in Cassella's Manual of Dyeing, Part 1, pages 41 and 42. If Nitrazol C is not at hand develop in a bath made up with

1 lb. 14 ozs. Paranitraniline.
3½ pts. Hydrochloric Acid, 32° Tw.
4½ gals. Ice Water.

When cooled to at least 57° F. add

1 lb. 9 ozs. Sodium Nitrite

in concentrated solution with constant stirring, and finally diluted to 42 gallons.

Diamine Nitrazol Bordeaux G B possesses good fastness to light and washing.

Recipe No. 144.

Blue on Cotton Yarn.

Brilliant Copper Blue B W on 100 lbs. cotton yarn. Prepare the dye bath with

5 lbs. Brilliant Copper Blue B W.
(Berlin, 213 Water St., N. Y.)
20 lbs. Glauber's Salt.
2 lbs. Soda Ash.

Enter yarn at 120° F. and dye at a boil for one hour, then after treat in a bath made up with

3 lbs. Copper Sulphate,
1 lb. Acetic Acid,

working at a boil for 1/2 hour.

Brilliant Copper Blue B W when after treated with copper sulphate possesses excellent fastness to light but only moderate fastness to washing.

The number of spindles in the cotton mills of Italy has increased from 1,940,000 in 1900 to about 5,000,000 in 1909, and the quantity of cotton consumed from 475,000 bales to 941,000 bales.

New Machinery and Processes

This department is designed to present from month to month a brief mention of new machinery, devices and processes being brought out in this country and abroad, that are of interest to the textile manufacturers. It is not a list of patents but of improvements on the market, the idea being to present to our readers a systematic monthly record of new machinery, etc., of interest to textile mill men.

Whenever possible we endeavor to make a personal investigation of the new machinery and processes described in this department. In the absence of such personal investigation we must necessarily rely upon information obtained from those who control the machines and processes.

We invite machine builders and others to send us such information for this department.

Mercerizing Machine. F. R. Gebauer, Berlin, Germany. An improved mercerizing machine and apparatus for reclaiming the caustic from mercerizing liquor. A description will be found in this issue. A. W. Buhlman, 487 Broadway, Silk Exchange Building, New York, is the American agent.

A Stop Motion for Cards. Eugene P. Schmitt, 416 W. Second St., Seymour, Ind. An electric stop motion for stopping the cards when the drawing becomes fine or breaks or laps the roller.

Raising Machine for Plush. Gebrueder Heil, M. Gladbach, Germany. A machine for raising the pile on plush and similar fabrics, after cutting.

Press Plates. Silvio A. Schewczik, Vienna, Austria. A hollow press plate on which air pipes are arranged for forcing air between the plate and the cloth to form an air cushion during the operation of pressing.

Jacquard Head Motion. Oskar Schleicher, Greiz, Germany. An improved head motion for jacquard looms, which can also be adapted to dobby looms.

Rotary Press Attachment. Paul Klug, Crimmitschau, Germany. An attachment for raising the cylinder from the bed more quickly than has heretofore been possible.

Center Selvage Motion. Butterworth and Dickinson, Burnley, Eng. An improved center selvage motion and device for cutting the selvage. The two can be used in conjunction or separately.

Bobbin Feed. Elsaessischen Maschinenbau-Gesellschraft, Muelhausen, Ger. An apron feed for delivering bobbins to automatic looms.

Mercerizing Knit Hosiery. Max Wuenschmann, Chemnitz, Ger. A process for mercerizing hosiery which is said to be in successful use at Chemnitz.

Sizing. Hermann Schubert, Zittau, Ger. An improved process for sizing yarn by which it is claimed the thread is more thoroughly saturated with the solution than has heretofore been possible.

A Luster Finish. Carl Rumpf, Elberfeld, Ger. A process for imparting a waterproof and soap proof silk luster on cotton goods.

Finishing Pile Fabrics. Edward Schwab, Neunkirchen, Germany. An improved calender for producing raised effects on plush and other pile fabrics.

Thread Guide and Cleaner. Alois Lentsch, Muelhausen, Alsace, Germany. An improved thread guide and thread cleaner for spooling machines.

Skein Opening Machine. The B. Cohnen Machine Works, Grevenbroich, Germany. A machine for opening up skein yarn after dyeing, sizing or polishing. This is accomplished without the vibrating motion usual in such machines, consequently breaking of the threads is prevented.

Spool for Dyeing Machine. Albert Martin, Chemnitz, Germany. An improved spool for dyeing machines. It is provided with a removable cap which covers and prevents disarrangement of the material during the process of dyeing.

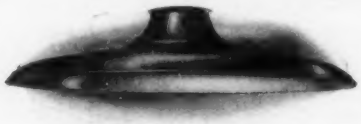
TEXTILE MILL LIGHTING.

BY C. O. BAKER.

There are few problems of greater interest to the operator of an industrial plant than the proper illumination of his workrooms. Quite irrespective of any sociological consideration there is an investment of capital stock with dividends to be paid from only one source—the profits on the product.

In the textile processes, the human element enters largely into the operation and whether the wage scale be on a piece work or daily rate basis, any increase in the total production without a corresponding increase in the investment makes for an increased earning capacity.

Working under inefficient light the strain placed on the eyes of the operatives bears heavily on the nervous system and in direct



GROUP D REFLECIOR

proportion to the delicacy of the operations they perform. A bettering of the lighting conditions by relieving this nerve strain makes for greater skill and a consequent increased output and better work. In turn this attracts a better class of operatives who by the natural process of competition will gradually retire mediocrity or absolute inefficiency and to a very large extent will eliminate labor troubles so frequently the result of overwrought physical organizations.

In the early days of electrical illumination with a high cost for power, high cost for lamps and a large current consumption per lighting unit the illumination of industrial plants was necessarily restricted to the actual requirements, which were frequently underestimated. Now, with a decrease in the cost for power, through improved methods of generation, and the decreased energy consumption of the later illuminants, it is thoroughly practical to obtain many times the volume of light without any increase in the cost of operation and maintenance. Where the illumination has been adequate, the cost for a similar lighting value has been greatly reduced.

The introduction of tungsten lamps and their later developments sold under the name "Mazda" has been a very large factor in this lighting economy. As the filaments

GROUP P REFLECTOR.

in these lamps have been improved to the point where the breakage is moderately low, there are few industrial operations where their use is not thoroughly practical. With all this economy the question of distributing the light over a useful area is paramount. Every light source emits rays, a large proportion of which are not projected in the right direction. This is equally true of gas or gasolene lamps with or without incandescent mantles, arc lamps in their various forms, and incandescent lamps of any type, the light in any direction being in direct ratio to the surface of the filament, mantle or flame exposed in that direction and the prime intent of the reflector is to divert this wasted light to some useful angle.

There has been a divided sentiment in regard to the several schemes of illumination which have been classified as general illumination, localized lighting and composite illumination, which is a combination of the first two. In the first class the lighting unit, with group D reflector, is so disposed as to throw a volume of light over the entire workroom, depending on the white walls and ceilings to brighten the room and adding to the cheerfulness of the surroundings. It cannot be denied that this method exerts a beneficial influence on the working force. To effect this and at the same time

give ample illumination at the plane of operation for all operations, might not be desirable on account of the brilliancy of the units high above the plane, so that additional smaller units (group P reflectors) are placed close to the work with the filament of the lamp screened from the direct vision. It is this combination that is designated as composite lighting.

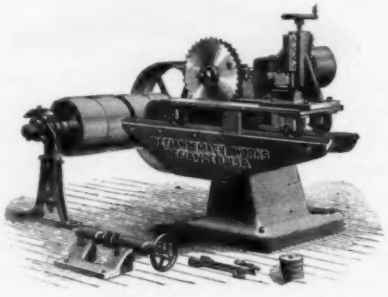
Many operations are conducted at machines or on benches where a more intense illumination is required directly on the work and general illumination may not be expedient. In such cases individual units, with group P reflectors, of lower intensity placed nearer the work are most effective. Group P reflectors are parabolic in form and so constructed as to throw down the light from a Mazda lamp tangent to the bulb and with a maximum of lighting value.

D and P constitute two prominent groups in the line of industrial lighting reflectors made by the Wheeler Reflector Co., Boston, and designated "Wheeler 'Para-Steel' reflectors." It has been asserted that a steel reflector with a matte aluminum surface will give a greater illuminating value than any other convenient reflector. This is only a part of the truth, as any matte or slightly roughened surface must necessarily accumulate dust and fluff, dirt and grime to a greater extent than a glazed surface, while moisture from the dyeing and bleaching processes sooner or later causes a deterioration and corrosion of any steel form protected only by a coat of paint enamel or matte aluminum however well applied. While Wheeler "Para-Steel" reflectors, group P, are supplied with a matte aluminum surface to those to whom the lower cost directly appeals, this group P with a porcelain enameled (fire enamel) surface is especially recommended because it is impervious to moisture and acid atmospheres, has a smooth glazed surface which will not collect as much fluff and dirt as a matte surface. Dirt, grease and grime which accumulates may readily be wiped off the glazed porcelain enamel surface with a damp cloth and the surface restored to its initial reflecting efficiency.

As the question of the proper reflector for each class of work is one which can be exactly determined by a lighting engineer, the Wheeler Reflector Co. will be pleased to place their experience of over thirty years in this industry at the disposal of interested mill operators.

SPOOL AND BOBBIN DISC DIVIDING SAW.

This saw, built by the Defiance Machine Works, Defiance, O., has been designed for resawing thick wooden discs into thin sections, which are used for making spool and bobbin heads or flanges in cross sections to prevent checking when they are glued together. The machine takes the work as it comes from the cutting and boring machine and prepares it for the gluing process. It is provided with a gang of four 16-inch saws,



SPOOL AND BOBBIN DISC DIVIDING SAW.

which are capable of resawing a disc of proper thickness into five sections at one operation from 2 inches up to 5 3/4 inches diameter. Larger work up to 10 inches diameter can be resawed, providing larger saws are used. Large sized discs are usually produced with the use of a single saw in place of the gang saws, using the special attachment for holding the work, as shown at the base of the machine. From 5,000 to 10,000 pieces can be resawed in ten hours on this machine, the capacity depending upon the size of the work. The frame of this machine is a heavy casting in one piece with cored center and a wide floor base. All the working parts are accurately fitted to it. The saw arbor, of steel, large in diameter,

runs in heavy self-lubricating bearings. The saw end is arranged to carry one or a gang of saws to suit the different kinds of work.

The roller table which supports the work is gibbed and travels upon planed, angled tracks, the wheels of which are provided with roller bearings, and it works with the greatest ease to and from the saws. It is provided with stops at each end to regulate the length of travel. The chuck for holding the discs is self-centering, opening and closing by hand wheel and screw to receive discs of various sizes. The jaws consist of tool steel plates that travel between the saws to hold each disc separately after having been resawed, making it impossible for the stock to get fast between the saws. Holding the work rigidly ensures true work.

ROLLER BEARINGS VS. BABBITTED BEARINGS.

BY JOHN A. SCHROEDER.

One of the main causes of waste of power in a manufacturing plant lies in the transmission of the power through line shafting, and the friction in the bearings. In all other departments improvements have been made tending to effect savings and thus to reduce the manufacturing cost. The means for transmitting power through a plant where line shafting is used, are virtually the same today as they have been for years. Shafting is still running in babbitted bearings and the only improvements have consisted in introducing various devices for oiling the bearings.

A few years ago there was a tendency to abolish line shafting entirely, running all machines by individual motors. It has been found, however, that unless the machines thus driven are run only intermittently or each machine requires quite an amount of power, the low efficiency of small motors together with the high cost of a large number of them, with wiring, starting devices, etc., renders this system uneconomical. It is generally conceded that the most economical transmission of power is what is termed "grouped drives." A number of machines are run from one motor, through one or more line-shafts.

There is always a great deal of friction where shafting is run in babbitted bearings, even where the shaft is perfectly aligned. In most manufacturing plants, through the settling of buildings, the loosening of set screws and the springing of the shafts, this friction load is increased greatly, and the time has come when the manufacturer is asking himself if there is no way or means by which he can reduce his friction load.

In machinery of all kinds ball and roller bearings have been introduced and their extensive use clearly demonstrates the saving they effect. Of the two the ball bearing, presenting only point contact, is the more efficient and should be used wherever possible. Under heavy and varying loads, however, and in places where bearings must be split, the roller bearing is more successful.

When the question arises how to reduce the friction load in a manufacturing plant, attention is naturally turned to ball and roller bearings, and manufacturers of transmission machinery have lately given this matter a great deal of attention. Ball bearings of several makes, designed for line shaft purposes, have been on the market for some time. It is, however, impracticable to split a ball race, and a line shaft bearing should necessarily be split in order to be practicable. The attention, therefore, turns to roller bearings, and some roller bearings successfully used on special machinery and in special places have been applied to line shafts. In some cases they have given satisfaction; in many others not, from the fact that in applying these roller bearings to this service the necessity of changing the construction was not taken into consideration. Recently roller bearings, constructed especially for line shafting service, in the construction of which care has been taken to meet all requirements to be met with in such service, have been placed on the market.

The conditions and requirements peculiar to line shafting service are: Soft steel in shafts; more or less end play; more or less springing in the shaft.

A commercial cold rolled, cold drawn or turned shaft is made from a low carbon, soft steel, and if run directly on hard rollers it

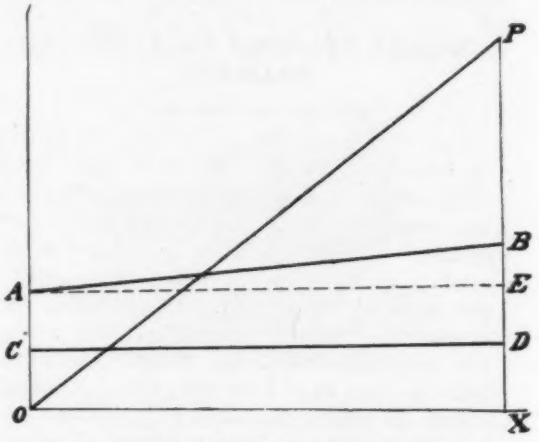
will soon become worn. A high carbon steel bushing should be provided, securely clamped to the shaft, so as to present a hard wearing surface for the rollers to revolve upon, and to provide an absolute protection to the shaft.

In most roller bearings the rollers or roller structures have been revolved between stationary ends of the bearing boxes. If applied to a line shaft, the end play will force the rollers or roller structures against the stationary ends, causing friction and should, therefore, be of the floating type, absolutely free and clear, and no revolving part should be allowed to run against any stationary part.

The belt pull on either side of line shaft bearings will often cause the shaft to spring more or less, this springing causing the shaft to bend in the center of the bearing. If the rollers are run loose in the box this bending of the shaft may cause them to get out of alignment, to bend and to bind. A properly constructed roller bearing for line shaft service should, therefore, have the rollers aligned so as to be kept at all times parallel with one another and with the shaft. In a roller bearing for any class of service the shorter the rollers are the more efficient is the bearing. The question then arises, how long should the rollers be in order to make the bearing most efficient, consistent with strength. If a roller is aligned so that it is at all times kept parallel with the shaft, it cannot be subjected to anything but an absolute crushing strain. It should, therefore, be of sufficient diameter and sufficient length to withstand a crushing strain equal to or somewhat above the shearing strain of the shaft. If such is the construction a roller cannot break unless there should be a flaw in the steel from which it was made.

Consideration must be given to the wear of the bearing. The bearing should be so constructed that the wear be allowed to come on such parts as can be most cheaply and readily replaced. If the rollers are made of a high grade, high carbon steel and they are case hardened and ground, they will show very little or no wear running against surfaces of softer material. It is a well known fact that steel running against cast iron gives as efficient results in regard to non-wear as any two metals. If the box itself is made of a good grade of cast iron, there will be very little wear on the box. The bushing which protects the shaft is necessarily thin, and could not be made of cast iron. It should, therefore, be made of a high carbon steel, but not case hardened, so that the wear will come on this bushing and none on the rollers. The bushing naturally can be cheaply and easily replaced.

The friction load in a manufacturing plant is the power required to run the shafting with all machinery standing idle, in other words, with clutches thrown out, when such are used, or with belts running over loose pulleys, where tight and loose pulleys are



POWER AND FRICTION LOAD WITH ROLLER AND BABBITTED BEARINGS.

used. It is very seldom that the friction load is less than 30 per cent. of the power load. Very often it runs 40 per cent. and above. With properly constructed roller bearings, properly installed, this friction load can be cut practically in half, which means a saving of from 10 to 20 per cent. of the total power used.

As the load is thrown on the shafts the friction in the babbitted bearings is increased, due to the increased pressure between shaft and bearing. The friction at full load, that is with all machines running, is, therefore, greater than at no load; viz, where

babbitted bearings are used. Where shafts are equipped with roller bearings, however, there is a very slight increase in friction, if any at all with increased load, so that the total saving of power by the use of roller bearings in place of babbitted bearings is even greater than the saving in friction load alone. The accompanying diagram will clearly illustrate this.

Line O P represents the power required for driving the machinery, with no load at O, full load at P. The friction load is represented by line A B, with shafting equipped with babbitted bearings by line C D, when equipped with roller bearings. At no load, the power required to drive shafting, the friction load, is with babbitted bearings A O, with roller bearings, C O. As load is thrown on, the friction in the babbitted boxes increases, until at full load it is B X, P B being the power actually used for driving the machinery. With roller bearings the friction increases very slightly if at all with increased load, so that the friction at full load, D X, is about the same as C O, at no load. The saving in friction load is A C, the saving in power at full load B D. A C represents the saving in friction load alone; B D the total saving in power at full load, or, drawing A E parallel with C D, B E is the additional saving in power at full load. The total power required to drive machinery and shafting is, with babbitted bearings, P X, with roller bearings P X less B D.

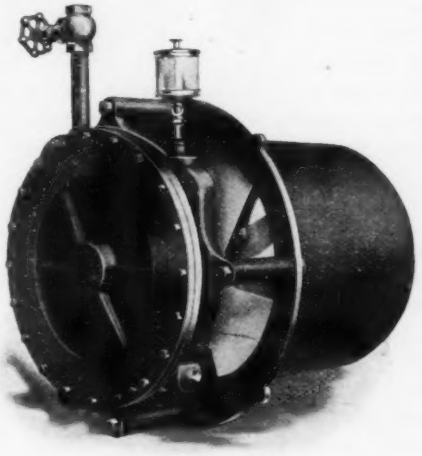
In every manufacturing plant, records should be kept of the power used as well as of the friction load. At regular intervals indicator cards should be taken off the engine, or readings of the motors, with friction load only, as well as with full load. If either is found excessive it should be reduced and kept reduced. The line shafting should be kept properly aligned and wherever possible, roller bearings should be used. No better investment can be made than substituting roller bearings for babbitted bearings, if, thereby, a saving can be effected of from 10 to 20 per cent. of the total power used, the net result of lessening the friction load by one-half. A saving of 10 per cent. in the total power will as a rule pay for the cost of substitution in a year's time or less. Roller bearings should not be used indiscriminately. When line shafting is run at unusually high speeds or when the load is in the nature of shocks, such as in a forge shop, where drop hammers are used, they are unsuitable. The continual shocks reverting back on the rollers will gradually crystalize the metal until they finally break.

A NEW STURTEVANT TURBO UNDERGRATE BLOWER.

A new turbo undergrate forced draft blower, which will be of interest to every one desiring to increase their boiler or stack capacity, and to those experiencing difficulty in properly burning their fuel, has recently been placed upon the market by the B. F. Sturtevant Co., Hyde Park, Mass., who for the past fifty years have been building and designing fans and fan systems.

CONSTRUCTION.

The construction of these blower sets is simple and durable, and consisting of a single stage impulse steam turbine direct connected to a propeller fan type. The bucket wheel of the turbine is a solid steel



forging carefully machined, the steam buckets being milled on the periphery of the bucket wheel.

The steam nozzles are made of Tobin bronze and are held in place by composition

draw-up nuts. The construction of the steam case gives great accessibility for inserting, removing or cleaning the steam nozzles. An ample dust proof phosphor bronze bearing and thrust washers are provided with oil cup lubrication. The construction makes it possible to renew the bearing at a small cost.

The built-up fan is of the propeller type and consists of six polished sheet aluminum blades rigidly fastened with hard drawn copper rivets into a bronze hub, which is finished all over to secure the proper balance necessary for the high rotative speed of these sets. The materials used in the construction of the fan insure great mechanical strength and also great corrosive resisting power. The stationary members of the blower set are constructed of cast iron parts of ample strength and rigidity.

OPERATION.

The Sturtevant turbo undergrate blower is practically silent in operation and requires a minimum amount of care and attention, as it can be controlled by a hand damper regulation or by regulating valves operated by the boiler steam pressure. As the exhaust steam from the turbine contains no oil it may be used to best advantage for any work for which exhaust steam may be put, such as feed water heaters, heating, etc. When discharging into the ash pit it produces excellent results with coals that would ordinarily cause serious trouble by clinkering.

INSTALLATION.

The cost of the installation of the Sturtevant turbo undergrate blower is exceedingly small. The wall thimble which forms anchorage for the set can be placed with equal ease in the front, side or back wall of the brickwork of the boiler setting. The ease of installation combined with the small cost of these turbo undergrate blowers should make them of special interest to all plants that desire to increase their boiler capacity, or in cases where the maximum efficiency is not being secured by the fuel.

APPLICATION.

These blower sets can be applied with excellent results to power plants that fall under the following classification:

1st. Electric light and railroad power plants that need increased draft during the peak of the load.

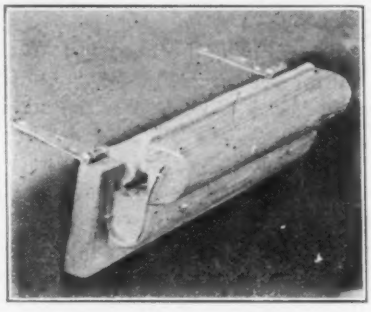
2d. Power plants that have outgrown their stack capacity and need 25 to 50 per cent. increase in b. h. p.

3d. In heating systems for hotels, department stores, flats, schoolhouses, etc.

4th. In small plants that need an increase in boiler horse power.

BECK'S HOSIERY BOARD CLAMP.

This clamp, manufactured by Albert C. Beck, 605 W. Somerset St., Philadelphia, Pa., designed to prevent the splitting and breaking of hosiery boards or forms, is in use in a large number of mills throughout the country. It not only saves the breakage of the boards, but enables a larger production to be handled without an increase in the number of hands. The clamp is attached to the bench by hinges, as shown in the illustration, a block affording a solid



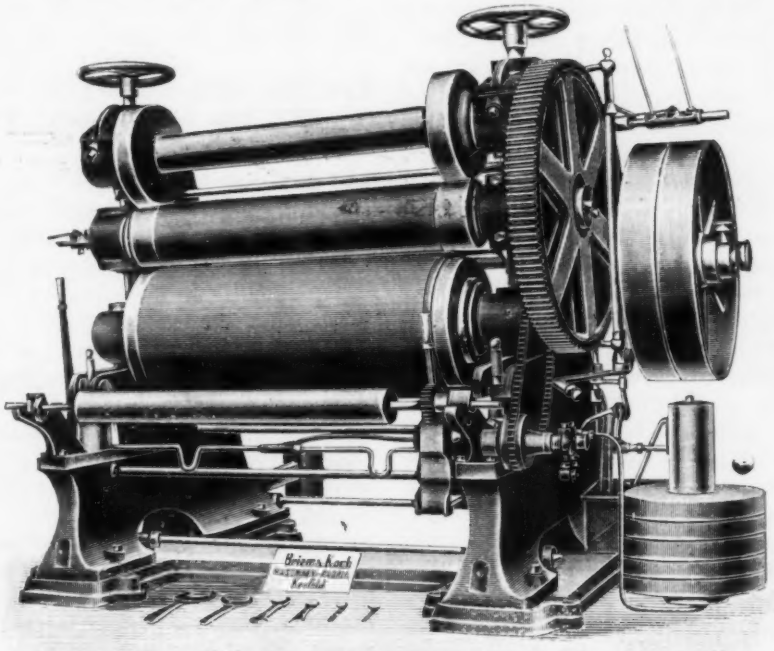
BECK'S HOSIERY BOARD CLAMP.

bracing. The form or board is placed in the clamp, the operator leans against it and the board then stands on a slant in a firm position while the operator has both hands free to manipulate the hose.

When releasing the board the spring opens the clamp. The hinges permit the board to lie on tht bench if not held or removed after the clamp is released by the finisher. The Beck clamp is well constructed and large enough to admit of a form or board nine inches wide.

A NEW SILK FINISH CALENDER.

A new calender with combined hydraulic and lever pressure for silk finish is being introduced by Alfred Suter, textile engineer, 487 Broadway, New York, sole representative of Briem & Koch, Krefeld, Germany. This calender has the advantage that the pressure can be exerted either through the levers or by hydraulic pressure, or by both combined. Thus the calender answers for all classes of work, including goods requiring a small amount of pressure, high pressure and elastic high pressure. The maximum pressure is 120,000 pounds.



NEW SILK FINISH CALENDER.

The sockets of the wrought or cast steel cylinder are rigidly fixed to the frame of the calender, while the sockets of the paper roll below and the pressure roll above are laid in prismatic guides. The pressure is exerted upon the sockets of the paper roll either by the levers or the pistons of the hydraulic pressure or by both. This pressure is transmitted to the pressure roll, causing it to exert the same pressure on the steel cylinder from above as the paper roll gives them beneath. Thus all strain is taken from the frame of the calender. The pressure roll can also be replaced by a paper cylinder if desired.

The hydraulic pump is attached to the frame of the calender and is driven by an excentric. An automatic device connected with the pressure tank stops the pump when the maximum pressure is reached, and starts it again as soon as the pressure falls. Both the lever pressure and the hydraulic, no matter whether they work separately or in combination with each other, can be taken from the cylinders at once by pushing a lever. The steel cylinder is driven by a very accurately cut gear and fast and loose pulley from a shaft, or by an electric motor. Mr. Suter will be glad to give any information desired to interested parties.

The quantity of cotton imported into the United States during the six-month period ending February 28, 1910, was 46,889,109 pounds, equivalent to 93,778 bales of 500 pounds each, valued at $8,500,875.

PARAFFINE ATTACHMENT FOR WINDING MACHINES.

Jacob K. Altemus, 2824 North 4th St., Philadelphia, Pa., who has recently brought out a new model winding machine for yarns, has developed and is now putting on the market a paraffine attachment for winders which is highly spoken of by manufacturers who are using them. It operates in such a way that no tension is applied to the yarn and no matter how soft or tender the yarn it is not injured. In fact it benefits rather than strains tender yarn as it lays up the fiber and makes a more uniform wind on the bobbin. This is accomplished by placing the wax upon the side of the bobbin as the yarn is being wound onto it. It is so regulated that the wax is applied only once with each lay of the yarn.

The attachment has been devised to meet the objections that have hitherto been met with in practical experience with paraffine for winding.

Mr. Altemus has also made a mould in which can be made the paraffine blocks to fit the attachment and he is also prepared to supply the paraffine and the formula of special mixes essential to the different kinds of yarn to be wound.

"TAR-ROK" SUB FLOORS.

There is frequently a demand for floors with a wooden wearing surface that can be laid directly on the ground without air space beneath and without liability of decaying. The Barrett Manufacturing Company, with offices in all the principal cities, has developed a form of construction which they call their Tar Rok Sub Floor, to meet these conditions.

The weight the floor will sustain is limited only by the crushing strength of the plank and the firmness of the earth beneath. Such a floor is absolutely rigid as no vibration is possible regardless of the character of the machinery, although separate cement concrete foundations would be required for engines, dynamos, etc.

They claim that a Tar Rok Sub Floor costs less than piers and heavy timbers and the extra excavations required to give air space beneath. As there is no air below the floor it is practically fire-proof. The creosote oil in tar which is the standard material for protecting timber, keeps out the white ants and other earth insects which usually destroy planking laid on the ground. This form of construction is also adapted for use above the ground floor where a wooden surface is required on a concrete slab.

A special booklet covering this subject has been prepared and will be mailed on request.

HEATING AND PURIFYING WATER BY THE USE OF EXHAUST STEAM.

The Cartwright-Caps system for heating and purifying water by the use of exhaust steam presents two important features:

First. An open heater in which the steam and water mix together and in which the oil is separated from the steam.

Second. The positive circulation of the hot water from the storage tank back through the heater again, keeping up a constant movement, thereby condensing all exhaust steam until the supply tank reaches a temperature of 190 degrees or over. The merits of the system are pointed out by the manufacturers as follows:

"The advantage of the open heater is obvious, inasmuch as it is possible to utilize all the heat and also to save the condensation resulting from the exhaust. The circulating feature of this system enables a greater quantity of water to be handled than would otherwise be possible. Instead of attempting to heat water which is now at a temperature of approximately 60 degrees, a certain quantity of the surplus hot water is brought back from the tank and mixed with the cold water. The benefit of this plan arises from the possibility of heating a greater quantity of water at a temperature of 90 degrees to 110 degrees with a given amount of steam than to heat water at 50 degrees to 60 degrees. As the water becomes heated it passes to the hot water storage tank. Before it can be drawn from this tank it passes through a filtering system which not only removes the mud, but also the temporary hardness that

has resulted from the action of the heat. We are informed that the results have been improved from 25 to 40 per cent., as compared with what has heretofore been possible. A higher temperature and cleaner water is obtained, facts that will always make themselves felt in coal consumption."

The Dundee Lake, New Jersey, branch of the National Silk Dyeing Company, installed several months ago a No. 5 Cartwright-Caps system. This contract was awarded in competition, with other important systems and the results have been very satisfactory. This plant has a capacity of 300 H. P. exhaust steam only. At the present time they are using only one-third of its capacity, which appears to be fore than sufficient for present needs. A similar plant in Jersey City that is now being worked to its maximum limit is able to heat 120,000 gallons daily. The Dundee Lake installation included a 2 1/2-inch centrifugal circulator, belt driven, working under a 25 foot head at 700 R. P. M., consuming 2 H. P. only. T his pump draws a certain specified quantity of water from a cold water tank and delivers it to the heater which is located at the top of a hot water tank with a capacity of 7,000 gallons.

It is planned to throw merely enough water to condense all the steam passing through the heater. This water is then delivered at a very high temperature to the hot water tank. A 3-inch line of pipe running from the bottom of this tank connects with the cold water line at a cross just before it enters the pump. The quantity of hot water entering this cold water line is regulated by valves according to the results desired, it being the intention to raise the temperature of this cold water from normal to approximately 90 degrees to 110 degrees before it reaches the heater. The result of this is to give a higher temperature and a greater quantity of hot water.

Better results can be obtained in heating water at the higher temperature with a given amount of steam than when it is at normal. This system is so arranged with a set of controlling valves working automatically that when a quantity of water is drawn from the tank the same quantity will be replaced. When the hot water tank is full the cold water valve is shut. This makes the pump act as a circulator only, drawing hot water from the tank and passing it through the heater again. This enables all of the exhaust steam to be condensed until the temperature of the tank reaches 190 degrees or over when the steam passes freely from the heater. This steam, which naturally expands inside of the heater creates a vacuum which is held by a vacuum valve, thus overcoming the back pressure. The separation of oil from the exhaust steam is complete. In experiments carried on by the National Silk Dyeing Company, both well water and spring water were used alternately to determine the efficiency of this separator. Not being wholly satisfied the company also went to the trouble of having the water analysed. The results proved the contentions made by the Cartwright-Caps Co., and the system was accepted.

The Cartwright-Caps Co. state that the majority of their installations have paid for themselves in from nine to fourteen months. The latest installation in New York City has done even better than this, having paid for itself in four months.

One of the most important features claimed for the 3-C system is the complete separation of oil from the exhaust steam. This is accomplished inside of the heater itself before the mixing of the water and the steam takes place. The exhaust pipe in the majority of cases is slightly reduced as it enters the heater giving the effect of a nozzle. The steam on entering is thrown against a set of inclined baffles and deflectors. The particles of oil are plastered or deposited on these baffles and held there by capillary attraction until heavy enough to run off along the sloping sides by gravity. After striking these baffles the steam is given a centrifugal or whirling motion and any particles of oil that may have passed the baffles are thrown to the outside wall of the heater from which they drain off in the same way. Joseph T. O'Brien, 47 W. 34th St., New York, is the Eastern agent.

China furnished $4,000,000 worth of the carpet wool imported into the United States in 1909.

Mill News

Those interested in receiving early and more complete investigated information of projected new mills, enlargements, improvements, fires, facts and gossip of the trade are referred to the TEXTILE ADVANCE NEWS, issued weekly by the publishers of the TEXTILE WORLD RECORD, at $15.00 per year.

COTTON.

New Mills.

*Alabama, Ragland. The Brown Cotton Mills have been organized with capital stock of $250,000 and propose erecting a mill with equipment of 10,000 spindles. This is the project in which W. T. Brown has been previously reported as interested.

*Georgia, Monticello. The Jasper Cotton Mill will start work at once on the erection of their new mill, which they propose having ready for operation next season. A capital stock of $225,000 is proposed, and a plant of 10,000 ring spindles. It has not yet been decided definitely what will be made, but combed yarns, 30s to 45s, are being considered. L. O. Benton, D. W. Gray and P. L. Davis are actively interested. None of the equipment has yet been arranged for.

Massachusetts, Brockton. The Lincoln Webbing Co. has been reported incorporated with capital stock of $25,000 and will manufacture cotton, woolen and silk webbing, and woven and braided goods. Arthur W. Smith is president of the new company and Geo. G. Allen, treasurer. Geo. A. Lapworth is also interested.

*Massachusetts, Fall River. Contract for constructing the mill buildings for the Charlton Mills has been awarded to Chauncey H. Sears and work is to be begun at once and pushed forward as rapidly as possible. The weave shed will be completed first and probably start up on yarns purchased in the market.

*Massachusetts, New Bedford. Site has been secured and work will start Sept. 1 on construction of the new buildings for the Booth Mfg. Co. They will install 1,300 looms for making fine cotton and silk goods. Steam power. Company has been incorporated with capital stock of $1,250,000; $750,000 preferred and $500,000 common. Wm. L. Mauran is president of the company; Frederick R. Brown, treasurer; George H. Booth, vice-president and agent and James A. Adams, superintendent. Will sell direct.

*Mississippi, Meridian. Work has been started on the new building for the Priscilla Mills. It is expected to install about 5,000 spindles.

New York, New York. The Liberty Lace & Netting Works is a new concern with temporary office at 11 East 16th St. Eugene Metzger is president of the company and Hugo N. Schloss, secretary and treasurer.

*North Carolina, King's Mountain. The Phoenix Manufacturing Co. has been reported incorporated with capital stock of $200,000 to operate the Lula Cotton Mill.

*North Carolina, Lumberton. The new Jennings Cotton Mill will soon be ready to start operations.

*North Carolina, Rockingham. Buildings for the Entwistle Mfg. Co. are nearly completed and initial machinery equipment including 20,000 spindles, 500 looms, and steam power plant is being installed. This company was organized about a year ago with capital stock of $500,000, and began the construction of the plant last August. Wm. Entwistle is pres.; Geo. P. Entwistle, sec. and treas., and W. B. Cole, vice-pres. and general manager.

*North Carolina, Salisbury. A charter has been secured by the Hambley Mfg. Co. and the proposed damask mill in which Gilbert Hambley was reported to be interested is now a certainty. The men interested with Mr. Hambley are C. C. Adams, T. B. Marsh and D. L. Arey. The authorized capital stock is $125,000.

*North Carolina, Thomasville. The Jewell Cotton Mills are making all preparations to have the plant running Nov. 1. The machinery is being installed and the plant thoroughly equipped.

*North Carolina, Thomasville. The Amazon Cotton Mills are busy installing the machinery in their new plant. The building is 100 by 300 ft. Six thousand spindles will be put in for making high grade yarns.

*Rhode Island, Phenix. The machinery is expected to be received next week for the new braiding mill to be run by W. W. Barber, of this place. The old Potter mill has been remodelled and will be equipped for making braid shoe laces, etc.

*South Carolina, Belton. Turkish towels and doilies are manufactured by the E. B. R. Weave Shed, E. B. Rice, proprietor. As previously reported the plant is equipped with 10 looms. Product is sold through Burch, Bailey & Co. of New York.

*South Carolina, Columbia. Work is under way on the new building, one story and basement, for the Glencoe Cotton Mills. This plant will be equipped with 5,000 spindles for making cotton twine and warp.

*South Carolina, Easley. Order has been placed for the machinery equipment of the new Alice Mill and work has been started setting it up.

*South Carolina, Greenwood. The Panola Cotton Mills expect to have the new buildings, now under construction, ready for the installation of machinery about Dec. 1, and the machinery in operation by April 1. This plant will have from 10,000 to 15,000 spindles and 300 looms for cotton goods. F. S. Evans is president of the company,

George H. Taylor, vice-president and C. L. Beaudrot, Jr., secretary.

*South Carolina, Newbury. Application for a charter for the Oakland Cotton Mills has been made. The capital stock will be $40,000, and it has been practically decided to build on what is known as Fair Heights. Col. W. H. Hunt will be president. Other men interested are H. G. Mayes, J. W. Kibler, J. D. Wheeler, F. N. Martin, C. D. Weeks and J. B. Hunter.

Enlargements and Improvements.

*Connecticut, Danielson. The Quinebaug Co. will instal two new horizontal condensing Corliss engines (one 500 and one 300 h. p.) in their new engine house, under construction.

*Connecticut, Montville. Operations have been started again in the Pequot Mill (Uncasville Mfg. Co.). Extensive alterations have been made in the plant. C. E. Sweet is superintendent of the plant.

*Connecticut, Willimantic. The brick work has been started on the American Thread Company's new bleach house.

*Delaware, Wilmington. We have been advised that the addition recently reported to be built for Joseph Bancroft & Sons Co. is intended entirely for the purpose of concentrating all of their lawn frames in one place, at the Rockford plant.

*Georgia, Hampton. The matter of changing from steam to electric power has been called off by the Hampton Cotton Mills and they have decided to increase their present steam power plant.

Maine, Augusta. Improvements are being made in the plant of the Edwards Mfg. Co.

*Massachusetts, Adams. General repairs are being made all over the plant of the Adams Bros. Mfg. Co. The spinning rooms and carding rooms have been repainted and the shafting leveled up. No new machinery has been installed nor have there been any changes in machinery. The company simply had a large supply of yarn between the spinning room and the dye house and thought it best to reduce this stock by curtailing and took advantage of the opportunity to make minor improvements.

*Massachusetts, Fall River. Within a month the roof will be put on the new weave shed being built by the Narragansett Mills. When finished this addition will give 25 per cent. increase in the capacity of the mill. It is a two-story structure, 125 by 126 ft. Work is going forward on another addition which will connect the present weave shed with the main mill, 40 by 100 ft., two stories high. Looms and slashers will comprise the entire equipment of the new sections and it is estimated have capacity of about 1,080 looms and 4 slashers.

Massachusetts, Fall River. The Granite Mills have replaced a number of mules in the No. 2 mill with spinning frames.

*Massachusetts, Lowell. The Hamilton Mfg. Co. advises us that they will make an alteration on the second, third and fifth floors of their storehouse for the purpose of installing looms.

Massachusetts, New Bedford. Work has been started on a new cloth room, picking department and storehouse, with capacity of from 4,000 to 5,000 bales of cotton, for the Dartmouth Mfg. Corp'n. These additions will be completed before winter.

*New Hampshire, Suncook. The Suncook Mills have completed a new brick addition to the cloth room, 96 feet long and have consolidated three cloth rooms in one. They have installed new trimmers and a 150-ton press. They advise that the mule spinning at the China Dept. has been replaced with ring spinning and new spoolers and slashers put in; also supplemented card room machinery with roving and intermediate frames. At the Pembroke Dept. the carding has been increased 25 per cent. and mule spinning replaced with ring spinning. The same has been done at the Webster plant.

*North Carolina, Charlotte. The Elizabeth Mills, reported closed for two weeks, have been overhauling, leveling and cleaning up about the plant. They have added one new doubling machine.

North Carolina, Cliffside. The Cliffside Mills, manufacturing ginghams, are installing a 1,000,000 pressure filter plant.

North Carolina, Forest City. A dyeing plant has been installed in the Florence Mills and the company is making a new line of colored stripe goods.

*North Carolina, Salisbury. New machinery equipment to be installed in the addition being built to the weaving department of the Salisbury Cotton Mills has been ordered. There will be no other changes made for the present.

*North Carolina, Salisbury. The Vance Cotton Mills have not yet made any definite plans regarding the proposed enlargement to the plant.

Oklahoma, Guthrie. The Pioneer Cotton Mills are to enlarge the plant and make an addition to the equipment. The capital stock has been increased from $150,000 to $240,000. They propose installing looms for manufacturing duck used for wagon sheets and tents.

*Pennsylvania, Philadelphia. The Philadelphia Winding Co. expects to be located in the new mill at Ontario and Rorer Sts. by the first of October.

*Pennsylvania, Philadelphia. The Copley Winding Co. has moved the plant from the Feldstein Mill to Jasper and Clearfield Sts.

*Pennsylvania, Philadelphia. The new five-story mill of the Lehigh Mfg. Co. has been roofed over and is rapidly nearing completion.

Rhode Island, Crompton. The foundation has been put in for a new mill office for the Crompton Co.

Rhode Island, Lonsdale. The Lonsdale Co. has started work on the erection of a new storehouse, 90 by 80 feet, brick.

*Rhode Island, Pawtucket. Work has been

started on the new building for the American Textile Co., manufacturers of cotton and silk laces.

Rhode Island, Pawtucket. Work has been started on a new picker house for the Slater Mfg. Co. on South Union St., and the plans are in preparation for a new warehouse. Construction work is being done under the supervision of the company instead of letting the work out to a contractor. An estimate of the cost of the two buildings is $30,000. The picker house will be 75 by 50 ft., of the most modern construction, and the warehouse will be of brick construction, two stories high, 196 by 145 ft., with a saw-tooth roof. It is not known definitely when work will be started on the larger building.

Rhode Island, Providence. The Fletcher Manufacturing Co. is to build a two-story addition and install four or five new machines.

*Rhode Island, Providence. The new dye house under construction for the Joslin Manufacturing Co. will have a capacity of 75,000 lbs. daily.

Rhode Island, Woonsocket. It is reported that the Lawton Spinning Co. contemplates erecting a new mill next spring.

South Carolina, Camden. Work on extensive improvements to the Hermitage Cotton Mills will be started soon. Heretofore the picking and carding machinery has not been of sufficient capacity to keep the spinning and weaving rooms running full time. New machinery is to be added in these departments and to provide space a third story will be added to the mill used for these operations, which is at present only two stories high. Besides these improvements, the entire plant will be overhauled and machinery rearranged throughout. A new boiler will also be installed in the power plant. During these improvements the mills will be kept running at practically full capacity.

*South Carolina, Chester. The proposed increase in the capital stock of the Wiley Mills from $150,000 to $300,000 has been made and steps will be taken at once to erect the proposed weave shed to use the yarns now produced.

South Carolina, Rock Hill. The Arcade Cotton Mill is reported to increase the capital stock from $200,000 to $360,000 for purpose of redeeming bonds and install new machinery in the plant, for which they have the space.

*South Carolina, Wellford. Some time ago it was reported that the Wellford Mfg. Co., the new concern which succeeded the Jordan Mfg. Co., would establish a spinning plant. They have gone ahead on this project and spinning machinery is now beginning to arrive and will be set up as soon as possible in a 60-ft. addition now under construction. When these enlargements are completed, they will have 1,200 ring spindles and 36 looms. W. M. Jones of Spartansburg is president and S. V. Muckenfuss treasurer and buyer.

Mills Starting Up.

Rhode Island, Warren. The Cutler Mfg. Co. has begun manufacturing on a small scale and is employing about 25 hands. It is hoped to get in full operation before the end of September. The controlling interest in this company was taken over by John H. Estes and Rufus P. Walker several months ago and the plant has been greatly improved and equipped with new machinery until it is now in excellent condition and has 11,500 ring and 17,000 mule spindles. Mr. Walker is treasurer, manager and buyer.

WOOLEN.

New Mills.

*Connecticut, Rockville. The Rockville Worsted Co. has started operations in the mill getting out samples, etc. The plant will be running in full by September, making fine fancy worsteds for men's wear. The product of the plant will be sold through Duval & Cone, New York.

*Massachusetts, Lawrence. Good progress is being made on Wm. Whitman's new merino yarn mill and the building is nearly up to the first story. There has been no organization as yet and Mr. Whitman is simply going ahead on his own initiative. No date has been set for the completion of the mill and the exact capacity has not been determined. Some of the machinery contracts have been awarded and some contracts are still to be placed.

*Massachusetts, Pittsfield. Work has been started by the Berkshire Woolen & Worsted Co. making a line of samples. It is expected to have the entire plant, which will employ about 200 hands, in operation this month.

Pennsylvania, Philadelphia. The International Rug Co., who recently leased the building at 30th and Chestnut Sts., with a capital of $75,000, all paid in, C. N. Fries, president, A. F. Gilmore, treasurer and C. W. Toboldt, general manager, report that the plant is now fully equipped and in part operation. The company makes a business of importing and renovating oriental rugs and making them ready for the market. They are buying large quantities of woolen yarns from the orient and are also users of chemicals, etc., for finishing purposes. Their product is sold through New York and Chicago.

*Pennsylvania, Philadelphia. Eight new Wilton looms have been ordered by the Dresden Carpet Co. and it is hoped to have these set up and ready to operate for the opening of the spring season.

*Rhode Island, Allendale. Work will soon be completed on the new plant for the Allendale Worsted Co.

*Utah, Provo. The Knight Woolen Mills, formerly known as the Provo Woolen Mills, are now in operation, although at present they are only making samples for the trade. As soon as all business arrangements are completed and the necessary operatives secured, operations will be started in full. James Dow is manager of the plant.

Enlargements and Improvements.

*Connecticut, Stafford Springs. The Warren Woolen Co. has received the 30 new looms previously reported to be installed in the plant. The finishing room of the plant has been moved recently to the basement of the new mill and the dressing and weaving departments will be moved shortly.

*Connecticut, Talcottville. Work is about completed on the new addition for Talcott Bros. They are installing a new 48 by 48 inch two-spool card, a 12-spool mule and will add four harness looms.

Illinois, Hanover. Manufacturing will be resumed by the Hanover Woolen Mfg. Co. next Monday, although the new picker house will not be completed for some time. The company has capital stock of $80,000. The equipment consists of 8 sets of cards and 32 looms operated on woolen goods. T. R. Goldthorp is president; A. B. White, treasurer, agent and buyer, and E. D. Woodwards, superintendent. They have complete dye house for raw stock and piece dyeing and operate by both steam and water power. The product is sold direct.

*Maine, Corinna. Burrill & Clark advise us that they have rebuilt their picker house and installed modern pickers, etc.

*Maine, Houlton. A crew of men have begun preliminary construction work on the proposed new mill for the Houlton Woolen Mill. The mill proper will not be built until next season, as reported some time ago.

Maine, Sanford. Contract for a brick building for the Goodall Worsted Co. has been awarded to Chas. Johnson and W. Leslie Goodwin. New water tanks for the company have been erected, giving a pressure of 90 lbs. at the lowest point and 75 lbs. at the highest point. The water has been drawn off at the pond of the Alpaca department in order that repairs can be made on the dam. This work will not be completed before fall.

Maine, Waterville. Two additions are to be built by the Wyandotte Worsted Co., 56 by 88 ft., 1 story high, and 30 by 140 ft., 2 stories high. Excavations for the foundations of the additions were begun this week. It is reported 4 additional sets of cards and 24 new looms with spinning machinery, etc., will comprise the new equipment.

Massachusetts, Northboro. The Woodside Woolen Co., which has recently made an addition to the motive power, expects to have another set of cards in operation by next week.

*Massachusetts, South Royalston. The American Woolen Co. is erecting a tower for a water tank at the Royalston plant. They are also building several new apartment houses for the operatives.

*Massachusetts, Uxbridge. The machinery has all been installed in the new weave room of the Hecla Mill, and it is expected that all the looms will be running within a short time.

New Hampshire, Tilton. During the shut down of the Elm Mills Woolen Co., a new boiler is being installed and other needed repairs made about the mill.

New Jersey, Beverly. Increased business of the Standard Combed Thread Co. necessitates larger quarters and a new 2-story brick addition is being built. This concern carbonizes and manufactures wool stock and wool packing, with capacity of 25,000 pounds daily. A little over a year ago the plant was moved to Beverly from Camden. Thos. Lee is buyer.

New York, Amsterdam. McCleary, Wallin & Crouse are receiving bids for a large addition to their present yarn mill which will be three stories high and is intended for 12 sets of 60-inch cards and 5 mules of 400 spindles each. It is estimated that the improvement will cost $30,000.

*New York, Malone. The new building to be erected by the Lawrence-Webster Co. is to replace an old one. Work has been started on the erection of the new plant, which they propose having completed and ready for occupancy about Dec. 15th. They will manufacture men's wear, to be made up into McMillan pants for working men. Will add one new set of cards and six looms, greatly increasing the production.

*Ohio, St. Marys. The St. Marys Woolen Mfg. Co. advises us that they have been installing some electrical motors, and expect to complete the installation so as to run their entire plant by electricity. They do not contemplate making any further improvements at present.

Pennsylvania, Carlisle. R. R. Todd, manufacturer of rag and jute carpets, proposes erecting a new factory building at the corner of Willow and Pitt Sts. Additional machines will be added.

Pennsylvania, Lenni Mills. Geo. Brown's Sons are to build a large addition to the dye house of the Parkmount Mills, a branch of their main mill at Mount Joy. The new building will be of brick construction, 50 by 90 ft.

Rhode Island, Westerly. A new floor is being laid in the dye house of the Pawcatuck Woolen Mills. This work is being done while the mill is running.

*Rhode Island, Woonsocket. Work is under way on the second of the Jules De Surmount Worsted Co.'s new mill, 160 by 110 feet. A large force of additional operatives will be employed.

West Virginia, Keyser. The Patchett Worsted Co. is building an iron reservoir of 30,000 gallons' capacity. These mills will also be fitted out with a sprinkler system.

*West Virginia, Webster. In addition to the increase in the power plant of the Webster Woolen Mills Co., four looms have been added in the weaving department.

Mills Starting Up.

*New Mexico, Albuquerque. Incorporation papers for the Wool Growers' Cooperative Woolen Mill Co., the association of wool growers who will operate the old Rio Grande Mills, have

been sent to the secretary of the territory. The incorporators are Magnus Brown, N. P. Stann and Dr. E. Osuna. The capital stock is $25,000, classified as $15,000 preferred stock and $10,000 common stock. It is expected there will be little delay in opening the mills.

Wisconsin, Waupaca. Plans are under way for reopening the Waupaca Felting Mills, which have been idle for several weeks. Late in 1909 it was reported that extensive alterations would be made in the plant, and that a line of knit goods would probably be added. Since that time the mill has been closed, and it is understood some changes have been made in the management.

Kentucky, Louisville. An organization known as the Textile Mills Association of the Middle West has been formed. Those present at the meeting which was held at Evansville, Ind., were Capt. Mans of the Henderson Cotton Mills, Henderson, Ky.; P. S. Tuley of the Louisville Cotton Mills; Chas. McCord of Louisville; John C. Hughes of Louisville; John J. Brown, treasurer of the Ohio Falls Dye & Finishing Works, Louisville; Lee Rodman of the Indiana Cotton Mills, Canellton, Ind.; Marcus Sontag of the Evansville Cotton Mills and Chas. M. Brown, treasurer of the Lincoln Cotton Mill Co. of Evansville. Other mill owners and officials are expected to come into the organization.

*Massachusetts, Easthampton. At present there will be no change in the plant of the Easthampton Elastic Web Co. The new company was incorporated a few days ago with capital stock of $25,000 and the officers are as follows: Herrmann Eger, president; A. M. Kuhn, treasurer and buyer.

Massachusetts, Easthampton. A charter has been granted the Easthampton Elastic Webbing Co. with capital stock of $25,000 to acquire the business of the concern of the same name now conducted by Herrman Eger and Albert M. Kuhn. Fourteen narrow looms are operated on garter webbing and shoe goring.

Massachusetts, Easthampton. Current reports of a new mill being erected by the Hampton Company refer to the enlargement completed a year ago.

Massachusetts, Fall River. M. C. D. Borden has sold buildings at the corner of Central and Camden Sts. which will be moved or torn down. This is a step in the preparations that are to be made to build a new mill.

Massachusetts, Globe Village. The town of Southbridge has been asked by the Hamilton Woolen Co. to convey land on Main and West Sts. to the company.

Massachusetts, Lawrence. Some of the rooms in the combing department of the Arlington Mills are being operated overtime.

*Massachusetts, Lawrence. Rutter Bros. advise us that they are desirous of selling their plant as they wish to retire from the woolen business.

SILK.

New Mills.

*Connecticut, Norwich. Giron Bros. & Co., St. Etienne, France, have accepted the mill site offered, and other concessions, in a letter written to Mr. Edwin A. Tracy, president of the Board of Trade of Norwich, and state they will begin preparations to locate a mill in Norwich as early as possible. The Board of Trade advises that arrangements have not as yet progressed far enough to state particulars. Giron Bros. & Co. are manufacturers of velvet ribbons and it is understood will establish a plant in Norwich to employ about 100 hands.

New Jersey, Paterson. K. Frankel, Morris Sheftel, formerly engaged in dry goods business at Clinton, Mass., and Nathan Siff, have secured a mill of 50 looms and will engage in the manufacture of silk goods. It is said they plan to install new machinery and operate a total of 170 looms.

New Jersey, Phillipsburg. The Alpha Silk Co., which has been recently incorporated, will erect a concrete mill, 50 by 200 ft., one story, at Alpha, a suburb of this place. It is expected to have the building ready for occupancy about Oct. 1. Crepe twist silk will be made. Jno. Ramsey of J. Ramsey & Son is interested.

*New York, Waverly. Work on the plant of the Waverly Silk Ribbon Co. is progressing rapidly and it is planned to have the building completed by the middle of September. This company was incorporated early in June with capital stock of $30,000.

*Pennsylvania, Juniata. Work has been started on the new plant to be established here by The Schwarzenbach Huber Co. They will install 500 looms.

*Pennsylvania, Mt. Carmel. The Mt. Carmel Silk Co. will start operations in their new plant about Sept. 1st to the 15th, making broad silks. The mill will be equipped with 400 silk spindles and 50 looms. W. H. Shindel is treasurer of the company and E. E. Elwood, general manager. They will use electric power and will sell product direct.

Pennsylvania, Siegfried. The Central Silk Mfg. Co. has just completed a new addition to their mill and installing additional machinery. Thirty looms have already been placed and there is room for 70 more.

Enlargements and Improvements.

Connecticut, South Manchester. Work has been started on a new mill for Cheney Brothers, which will be 100 by 425 ft., two and three stories high. This mill will be equipped with special machinery for making spun silk yarns. About a year will be required for its completion.

Massachusetts, Holyoke. The changes and improvements in the old Whitcomb Bldg. to prepare for its occupancy by Wm. Skinner & Sons Co. are nearly completed.

MISCELLANEOUS.

*Connecticut, Norwalk. The new mill being built by the Muller Gloria Mills for the new Dresden Lace Works is nearing completion. It is a brick structure, three stories high. The machinery will be installed as soon as possible. Richard Muller of the Muller Gloria Mills is interested in the lace project and with Carl Neuhoff, 450 Broome St., New York, will have charge of the operation of the plant and selling of the product.

*Maine, Lewiston. Operations have been started in the new addition of the Lewiston Bleachery & Dye Works, before it is quite completed. The new building is two stories and basement. Both electricity and gas will be installed.

*Massachusetts, Lawrence. Machinery in the print department of the Hamilton Mfg. Co. of Lowell, which was recently purchased by the Pacific Mills, will not be removed before late in 1911, or until the new print works of the Pacific Mills, below the Wood Worsted Mills, are completed.

*Massachusetts, Mansfield. The Mansfield Bleachery announces that equipment of the plant has been completed, and they are ready to take orders for bleaching and finishing cotton goods in the piece, from 25 to 45 inches wide. The bleachery is a newly equipped plant on an old site, situated on the main line of the N. Y., N. H. & H. R. R. The location of the plant was determined by the excellent railroad facilities and by the quantity and quality of the water, which it is claimed is second to none in New England for bleaching fine white goods.

Massachusetts, North Grafton. The Finlayson Flax Spinning Co. has awarded contract for the erection of a new addition, 140 by 75 feet, two stories. It is stated that the addition will be erected in sections so that there will be no interruption of the mill work.

*Massachusetts, Webster. Bids for construction work on the new buildings to be built for the Stevens Linen Works from plans prepared by Chas. T. Main of Boston have been received. Contract will be awarded shortly. There will be a new hackling and carding building, 289 by 70 ft., a new spinning and weaving mill, 197 by 76 ft., three stories and basement, also a new bleachery, power house and additions to the repair shop and coal pocket.

*New Jersey, East Rutherford. Outside work has been completed on the building for the Georgian Plush Mills being built by Geo. Schmiedel. The inside work will be completed as fast as possible. New looms and finishing machinery will be installed for making plush.

*New Jersey, Waldwick. Machinery is being set up by the new Lancashire Bleaching & Finishing Co., incorporated a week ago with capital stock of $100,000. Little is known of the company or men behind it.

*New York, Chadwicks. Work has just been started on the foundation for a new engine house for the Utica Willowvale Bleaching Co. The new boiler house is nearly completed. Installation will be made of a 400 h. p. direct connected unit for electric power. They expect to have the work completed and the new power plant in operation about October 1.

*Pennsylvania, Allentown. The mercerizing machinery for the plant of Pickup & Kean is now being installed in their plant which has been remodelled and rebuilt, and it is their expectation to have it in full operation within a month. They will mercerize fine numbers of cotton yarns. They are also dyers of cotton yarns in the skein and report being very busy.

*Pennsylvania, Chester. The new artificial silk plant being erected at Marcus Hook by the American Viscose Co. is nearing completion and machinery equipment is being shipped from England. The new concern is controlled by Samuel Courtauld & Co. of London, England. M. S. Grant will be manager of the plant.

Pennsylvania, Chester. The Robert E. Clark Thread Co. finds it necessary to enlarge the plant to twice its present capacity. More space will be taken and the capital stock increased. This concern was incorporated a few months ago with a capital stock of $50,000, and began manufacturing in June, making spool cotton of all kinds. The plant is located at 126-28 East Sixth St. Robert E. Clark is treasurer, and C. H. Cressy, general manager and buyer.

Pennsylvania, Frankford. A new three-story building is to be erected by Hiram E. Perry, proprietor of the Edgewater Print Works and the Keystone Finishing Works. Both plants will be removed to the one building upon its completion.

Pennsylvania, Philadelphia. Otto Lindenhoffen, 611 Callowhill St., manufacturer of trimmings and braids with 10 braiders, is no longer in business. The equipment of the plant has been sold to other parties who have removed it to another location

*Pennsylvania, Philadelphia. The new building under construction for the Edgewater Print Works at 1602 Van Dyke St. will be completed by Jan. 1, 1911.

Pennsylvania, Scranton. An addition, four stories high, to cost $7,000, will be erected to the plant of the Scranton Lace Curtain Co., at Glen and Meylert Aves., which will be used for storage and manufacturing purposes.

*Pennsylvania, Tullytown. The Barlow & Burns Elastic Webbing Co., reported incorporated last week under the laws of New Jersey, has started a small plant of 12 looms for the manufacture of elastic webbing, using 2/26s, 2/30s, 2/40s and 2/70s yarns. They will sell direct. Richard Barlow is president and superintendent and T. P. Burns is treasurer. Mr. Barlow and Mr. Burns attend to the buying. The mill is operated by steam power.

FIRES.

Connecticut, Bridgeport. Fire in the building in which the Bias Narrow Fabric Co. is located caused this company some loss by water. The blaze was confined to the floor above.

*Massachusetts, Dedham. The damage at the Cochrane Mfg. Co.'s plant by the fire this week will amount to $30,000. A portion of the mill, 50 by 150 ft., was badly burned and machinery and stock practically destroyed. Some departments of the mill will be obliged to shut down until repairs can be made, including the worsted and finishing departments.

New York, Brooklyn. The two-story frame building at 540 Palmetto St. occupied by Otto Rudolph as a knitting mill, has been damaged to the extent of $2,000 by fire. The loss is covered by insurance.

Pennsylvania, Philadelphia. The Franklin Dye Works, owned and operated by J. W. Masland & Co. on carpet and upholstery yarns with a capacity of 10,000 lbs. per day and located at Clearfield and Jasper Sts., were destroyed by fire incurring a loss of $40,000. Hard work on the part of the fire department prevented the flames from spreading to the adjoining buildings operated by Brophy & Son, also engaged in the dyeing business, whose plant was slightly damaged by water.

FACTS AND GOSSIP.

Alabama, Eufaula. Reports that the Cowikee Mills are being enlarged are incorrect. Some time ago they completed the replacing of all the old machinery of the Eufaula Cotton Mills with new equipment and have more recently put in a new dyeing department. No improvements are being made at the present time, however, and they do not contemplate further enlargements or improvements just now.

*Alabama, Union Springs. The Union Springs Cotton Mills are being advertised for sale as previously reported, but the mill is still in operation and the officers state that they will not sell at a sacrifice. Two thousand ring and 3,000 mule spindles are operated on 4s to 16s yarns in skeins and cops.

California, Dolgeville. The Alfred Dolge Felt Co. is reported as having changed the firm name to The Standard Felt Co.

Canada, New Brunswick, Marysville. Arrangements are practically completed for the sale of the Gibson Cotton Mill to the Canadian Colored Cotton Co. of Montreal. D. Morrice, president of the Canadian Colored Cotton Mill Co., bought this property about three years ago. There will be no immediate change in the plant, but eventually the mills will be filled with machinery, giving about 60,000 spindles, which is the capacity of the plant. In connection with this expansion of the Canadian Colored Cotton Co. it might be mentioned that additional bonds and stocks will be issued and the company will have a new name.

Connecticut, Elmville. James H. Barnett, superintendent of the Thistle Worsted Co., will succeed William B. Dunn as treasurer of the company.

Connecticut, Middletown. The Portland Silk Company will start 50 looms running next week on a 58-hour schedule and hope to have the entire plant running on full time shortly. The narrow fabric department is busy.

*Connecticut, Mystic. Another effort is to be made to start the Royal Linen Mills and an office has been opened in the mill they erected. Some bleaching equipment has been installed. It is estimated that from $10,000 to $15,000 has been expended by the company and Samuel Keene, inventor of what they call their secret process, is quoted as saying that a similar amount will be expended for equipment shortly after operations are started. This concern reported some time ago that they would make linen fabrics and absorbent linen. M. M. Cartier of Providence is treasurer, and Mr. Keene is manager.

Delaware, Wilmington. The Winnington Bleachery Co. has been reported incorporated with capital stock of $50,000. C. A. & J. F. Winnington and E. McAteer are mentioned as interested.

Florida, Laurel Hill. Eric Von Axelson and associates are planning the organization of a $100,000 company to establish a mill for making sheetings, checks and similar goods. A canvass has been made of Laurel Hill residents and it is expected that about half the capital will be subscribed locally.

*Georgia, Arlington. Some progress has been made by J. E. Toole toward interesting capital in his plan to organize a cotton mill company. The proposed capitalization is $250,000.

Georgia, Columbus. At a meeting held recently by the Bibb Manufacturing Company it was reported that the mills will now resume operations on full time. They have been running but three days a week.

Georgia, Marietta. The A. T. Cox Company, Atlanta, Ga., is reported as having purchased the plant of the Concord Woolen Mills. They contemplate enlarging same.

Illinois, Chicago. Offices have been established at 203-5 Fifth Ave. by the U. S. Linen Flax Corporation, who claim to have a new process for making linen yarn from flax straw. They are sending out invitations to a demonstration of their process.

*Indiana, Peru. We have been advised by the Racine Woolen Mills-Blake & Co., Racine, Wis., that nothing conclusive has as yet been determined regarding the old Peru Woolen Mills. They have two or three different people negotiating for the property and if run it will be by other parties. It is not known at present to what use the mill will be put.

South Carolina, Central. W. L. Gassaway has been elected president of the Issaqueena Mills, to succeed R. G. Gaines, resigned, owing to ill health.

Massachusetts, Lawrence. Notices have been posted in the Everett Mills to the effect that the plant will shut down August 19 and remain closed until September 6.

Massachusetts, Lowell. One side of a 3-story brick mill of the Massachusetts Cotton Mills, used as a machine shop, collapsed. None of the workers in the building were injured. It is explained that the cause of the collapse is the undermining of the wall by water which flooded it because of a trench being dug near the canal.

*Massachusetts, Lowell. The Allerton Worsted Mills have been incorporated with capital stock of $30,000. Mark Ingham is president of the company and Edward Hoyle, treasurer.

*Massachusetts, Millbury. The Millbury Mills, reported closed for making repairs, will not add any new equipment.

Massachusetts, New Bedford. There have been rumors that a bleaching and finishing plant would be established by the Dartmouth Mfg. Corp., but in answer to these rumors, Walter H. Langshaw, president and agent of the company, states that he is not personally or officially interested in a finishing plant and the Dartmouth Mfg. Corp has no intention at this time of becoming interested in such a plant.

Massachusetts, New Bedford. S. J. Morey has been appointed agent of the New Bedford & Agawam Finishing Co. and will succeed Mr. Greaves. It is reported that the capacity of the plant will be greatly increased.

Massachusetts, Newburyport. The Lyman Cordage Co. has been incorporated with capital stock of $10,000 and it is understood will continue manufacturing in the plant formerly operated by the Newbury Cordage Co. in Newburyport, Mass. Franklin K. Lyman, Newburyport, is president: John W. Walton, Cleveland, O., treasurer and Chas. J. Brown, Winthrop, are the incorporators.

Massachusetts, North Adams. In spite of enthusiastic reports from time to time in local papers regarding the reopening of the mills there is no prospect that the Mayflower Worsted Mills will be reopened in the immediate future. Wm. Whitman & Co., Boston, still own the property and have no plans for its use.

Massachusetts, North Brookfield. It is reported that the Oxford Linen Mills are planning to have branch mills established in various places. The Oxford Linen Mattress Co., a subsidiary to the Oxford Linen Mills, have been incorporated recently for locating a plant at Winona, Wis. They will manufacture all kinds of linen mattresses. Robert G. Gould, Chicago, is president of the new company; Jacob Greenberg, New York, vice-president and George Feltham, secretary and treasurer.

Massachusetts, North Dighton. It is reported that the Chadwick Print Works plant will be sold to Rhode Island men who will use the property for manufacturing cotton goods. Several months ago the Chadwick Print Works was absorbed by the Algonquin Printing Co. of Fall River and the plant has not been in use since that time.

Massachusetts, West Boylston. It is reported that Harry E. Lowe is negotiating with Samuel Goldstein (Worcester) for the sale of the box shop. If sale is made the plant will probably be remodelled for a shoddy plant.

Michigan, Detroit. Plans for the merger of the Hamilton Carhartt Cotton Mills of Rock Hill, S. C., into the Detroit corporation, are under way and will be placed before the stockholders at a meeting to be held this week. The plan includes extensive enlargements to the cotton mill, which at present supplies only about two-thirds of the cloth used in the manufacture of garments in the Detroit plant.

New Hampshire, Gonic. The Gonic Mfg. Co. has shut down for the annual vacation. Reports that a new fireproof storehouse will be built to replace the old storehouse are incorrect as no storehouse is to be built by this concern.

New Jersey, Passaic. The Dundee Silk Throwing Co. has been mentioned as incorporated with capital stock of $25,000.

New Jersey, Paterson. A charter has been granted the Grosso Mills, with capital stock of $10,000 to manufacture silk goods and the new corporation will take over the silk and corset cloth plant formerly operated individually by A. Grosso, consisting of 24 looms in the Strange Mill. The officers of the new corporation are Paul L. Brandt, president; Simon Simonds, treasurer, and Claude Mazuy, agent.

New York, Croton-on-Hudson. It is reported that Sigmund Bachrach, Leo Lichtenstein and A. T. Scharps of New York City are interested in the Arlington Ribbon Co., incorporated with capital stock of $50,000.

*New York, Groveville. The report that the Groveville Carpet Mills have been sold to John Crossley & Sons, of Halifax, Eng., is denied. The English concern has been making inquiries regarding the property, but the sale has not been completed.

New York, Newburgh. The Newburgh Steam Mills are being repaired and put in order in anticipation of the sale of the property. Lorenzo Semple, president of Garner & Co., is in Europe arranging for the sale of the plant.

New York, New York City. The New Process Twine Co. has been incorporated with capital stock of $50,000 to manufacture twines, cords, ropes, etc. The incorporators are A. Funke, Hoboken, N. J., E. Posnansky and A. H. Coble of New York City.

New York, New York City. As a result of the organization of the International Cotton Mills Corporation, the management of all mills of the Consolidated Cotton Duck Co. will be removed from Baltimore to Boston. It has been noted in an early report that the new corporation consolidates the Bay State Cotton Corporation, the Consolidated Cotton Duck Co., J. Spencer Turner, and the Boston Yarn Co. About 22 mills will be taken over.

*New York, New York City. The recent incorporation in New York of the Saratoga-Victory Mfg. Co. is not a reorganization of the Saratoga Victory Mfg. Co. of Victory Mills, N. Y. H. E. Fisher, agent of the mills, states that they are not in a position at present to give information of the reorganization which is to be made, as their plans are not completed.

New York, Wappingers Falls. On account of the strike of the masons employed on buildings for the Garner Print Works & Bleachery Co., the work on this enlargement has been held up.

North Carolina, Albemarle. The Lillian Knitting Mill, which has been operating the plant nights to fill contracts, has declared a semi-annual dividend of 5 per cent.

*North Carolina, Hickory. Contract for building the plant of the Water-Power Electric Co., headed by M. E. Thornton, president of the Thornton Light & Power Co., has been awarded to New York contractors who expect to begin work some time in August. It is estimated that 9,000 h. p. can be developed. It is reported that the Southern Power Co. will develop Lookout Shoals on the Catawba River some distance below the site where Mr. Thornton's development will be and is interested in the erection of a cotton mill near this point.

*North Carolina, King's Mountain. The plant of the Johns Manufacturing Co. is to be sold at public auction on October 17 by the American Trust Co. of Charlotte, N. C.

*North Carolina, King's Mountain. We have been advised by J. C. Plonk of Cherokee Falls, S. C., that plans for organizing a company to take over the plant of the Lula Cotton Mill are not yet ready to be made public. This is a yarn plant, equipped with 10,000 ring and 5,000 twister spindles.

North Carolina, Mocksville. F. H. White (Charlotte) is reported as interested in organizing a company with capital of $225,000 to establish a cotton mill here.

*North Carolina, Rockingham. The new Entwistle Mfg. Co. will make 38 to 40-inch grey goods. They will begin manufacturing some time this year.

*North Carolina, Vass. Walter B. Bell, the secretary and treasurer of the new Vass Cotton Mills, was formerly secretary of the Alpine Mills of Morganton. B. W. Bingham, also formerly of Morganton, will be superintendent of the Vass Mills.

*Ohio, Ashtabula. The Chamber of Commerce has investigated the project of E. O. Boli to establish a knit underwear mill here in a very thorough manner and is satisfied that support will be accorded by the citizens. It is planned to give employment to 125 to 150 hands. The directors of the Chamber of Commerce have ordered a prospectus printed and will request the citizens of Ashtabula to support the new company by subscriptions to the stock. A subscription committee has been appointed and includes C. W. Jacques, A. T. Ullman, I. B. Read, J. C. Topper, Geo. C. Hubbard and Mr. Boli.

Oklahoma, Guthrie. A. A. Frierson (Aberdeen Miss.) and T. Threadgill and E. V. Conklin (Oklahoma City) are mentioned as interested in organizing a company with capital stock of $150,000, for building a cotton mill.

Pennsylvania, Allentown. The Astron Silk Company is reported to sell their mill, equipped with 50 looms, running on broad silks. Several buyers are said to be considering the plant.

Pennsylvania, Chambersburg. Arrangements have been made by the Melville Woolen Co., Fredericksburg, Va., whose plant has been destroyed by fire, to operate the plant of the Chambersburg Woolen Co. The estimated loss by fire is placed at about $150,000, with a small insurance.

Pennsylvania, Downington. It is reported that the Rockstone Mills, which have not been running for some time, are to be offered for sale on Sept. 14th. The property consists of the main mill building, 50 by 125 feet, 3 stories, engine and boiler house, dye house, picker house and storehouse, with seven tenement houses.

Pennsylvania, Emaus. J. H. Frederick, owner of the broad silk plant of 30 looms on Ridge St., will take charge of the Bath Silk Co., of Bath, Pa., and will leave his plant in charge of Calvin Kulp.

Pennsylvania, Harrisburg. It is reported that the Peerless Mills have been organized with capital stock of $25,000 for purpose of manufacturing cotton and woolen goods.

Pennsylvania, Philadelphia. It is reported that some additional looms have been started up in the mill of W. T. Smith & Son, Inc., manufacturers of rugs, etc.

Pennsylvania, Philadelphia. Plans have been completed for a one-story addition to the plant of the Arguto Oilless Bearing Co., 149 West Berkley St., Germantown. The plans call for a building 83 by 55 feet, work on which will be started at once.

*Pennsylvania Philadelphia. At a meeting of the creditors of William Lockhardt & Sons, Howard St. and Lehigh Ave., manufacturers of Turkish towels on 30 looms, it was decided to grant an extension and permit the firm to liquidate the business.

Pennsylvania, Philadelphia. The partnership agreement between Wm. C. Foulds and Walter N. Beatty, trading as the Dragon Dye Works, has expired, Mr. Beatty retiring from the firm. The business will be continued by Wm. C. Foulds, trading as the Dragon Dye Works, and he assumes all obligations and will collect all accounts due the firm. Mr. Beatty will continue in the capacity of salesman.

Rhode Island, Olneyville. The Continental Worsted Mills are quite busy, having received several duplicate orders on heavy weights. This plant is being operated with a night and day force.

Personals.

Clarence Jackson, overseer of finishing for the Oakland Mfg. Co., Reisertown, Md., has resigned to accept a similar position with the Melville Woolen Co., Fredericksburg, Va.

Wm. Barnes has been appointed assistant superintendent for the new bleachery of the Dominion Textile Co. at Montreal, Can.

L. R. Gilbert has accepted a position as overseer of carding and spinning at the Caraleigh Mills, Raleigh, N. C.

O. J. Ludwig, second hand in the weaving department at Cooleemee, N. C., has accepted a position as overseer of weaving in the Washington Mills, Fries, Va.

C. S. Wilkinson has been promoted from overseer of weaving to superintendent of the Dwight Mfg. Co., Alabama City, Ala.

Walter B. Beal has resigned as manager of the Alpine Mills, Morgantown, N. C., to accept the position as treasurer of the new mills at Vass, N. C.

F. C. Wood has been promoted from overseer of twisting to overseer of spinning in the Lockport Cotton Mills, Yorkville, S. C.

Harry Whelan, overseer of weaving for A. G. Dewey Co., Queche, Vt., has severed his connection with that company.

Jefferson B. Kimball has accepted a position as designer for the Stillwater Worsted Co., Greenville, R. I. He formerly was employed at the Standish Worsted Mills, Plymouth, Mass.

Thomas Hay, manager of the Calais Woolen Mills, Calais, Me., has severed his connection with that company.

Jos. Pepler, overseer of the dyeing department for the Brodielt Worsted Co., Clinton, Mass., has severed his connection with that company.

Geo. W. Chadwick, overseer of spinning at the Saundersville Cotton Mills, Saundersville, Mass., met with a painful accident by being caught in the gears, which cut off the index finger of his right hand.

Charles E. Legg, overseer of weaving for Mayo & Son, Foxcroft, Me., has resigned. His successor is Chas. S. Garner, who was employed by the Pine Tree Worsted Co., Medway, Mass.

James Cuthbertson, overseer of dyeing for the Continental Worsted Co., Providence, R. I., has resigned and has been succeeded by George P. Wilman.

Theodore R. Plunkett has accepted a position with the Berkshire Cotton Mfg. Co., Adams, Mass., and will be associated with his father, Wm. H. Plunkett, and learn the details of office work.

Jordan Keefe has accepted a position with the Meyer Thread Co., Lowell, Mass. He was formerly employed for the Merick Division of the American Thread Co., Holyoke, Mass.

Robert F. Coble, superintendent of the Locke Mills, Concord, N. C., has become superintendent of the Mascot Mills, Bessimer City, N. C.

Nelson Slater has accepted the position as engineer for the Blackstone Mfg. Co., Blackstone, Mass. He was formerly employed at the National & Providence Mills, Providence, R. I.

Henry Kerkhoff has been appointed overseer of wet finishing for the Martinsburg Woolen Co., Martinsburg, W. Va.

W. H. Sanford, superintendent for H. T. Murdock Co., Proctorsville, Vt., has severed his connection with that firm.

Patrick Donnelly, overseer of weaving at the Stillwater Worsted Co., Greenville, R. I., has severed his connection with that company.

John R. Menzies has been appointed overseer of carding for Jos. Noone's Sons Co., Peterboro, N. H. He recently resigned the position with the Burlington Mills, Winooski, Vt.

H. T. Gilleland has accepted a position with the Cherokee Hosiery Mills, Rome, Ga., as fixer of knitting machines.

Fred Greenwood, recently overseer of dyeing at the Merrimack Mfg. Co., Lowell, Mass., has accepted a similar position with the Dominion Textile Co., Ltd., at their Montmorency Mills, Montmorency Falls, P. Q., Canada.

Jos. Brennan, for several years employed in the carding room at the Pawcatuck Mills, Westerly, R. I., has resigned and will take a much needed rest.

Alfred Midgely, for four years a foreman at the Salt's Textile Mfg. Co., Bridgeport, Conn., has resigned. Frederick Cooper, foreman of the winding room, succeeds him.

H. C. Clitz, assistant superintendent of the Harden Mfg. Co., Worth, N. C., has resigned to engage in other business.

J. T. McGregor has been appointed superintendent of the Florence Cotton Mills, Forest City, N. C. He was formerly superintendent of the Fort Mill Mfg. Co., Fort Mill, S. C.

O. L. Wagstaff, superintendent of the Dallas Cotton Mills, Dallas, N. C., has severed his connection with that company.

Samuel Handford has accepted a position as boss bleacher at the Waldrich Bleachery, Delawanna, N. J.

Henry Wood, for 24 years master mechanic at the Wauregan Co., Wauregan, Conn., has resigned, his resignation to take effect this month, when he will retire from business

A. W. Lockwood has been appointed superintendent of the Earnsdale Worsted Co., Clinton, Mass., to succeed Stephen M. Burgess, who resigned. He was recently superintendent of the Beebe-Webber Company's mill at Holyoke, Mass.

R. H. Fish, overseer of weaving at the Montreal Cotton Co., Valleyfield, P. Q., Canada, will sever his connection with the company, August 13, to accept a position with the Esmond Mills, Esmond, R. I. Mr. Fish was employed at his present position for over four years and his many friends regret to have him leave as he was an active member and vice-president of the Valleyfield Amateur Athletic Association, captain of the Valleyfield Cricket Club and a prominent member of the Masonic Lodge.

Irving Southworth, superintendent of the Dwight Mfg. Co., Alabama City, Ala., has resigned to accept the superintendency of the Pacific Mills, Lawrence, Mass.

M. B. Cochran has accepted a position as overseer of dyeing at the Bellwill Mills, Wilmington, N. C. He formerly held a position as second hand at the Revolution Mills, Greensboro.

R. H. Morrison has been appointed superintendent of the Mariposa Cotton Mills, Mariposa, N. C. He comes from Stanley, N. C.

J. B. Knight has been promoted from second hand to overseer of spinning at the Gainesville Cotton Mills, Gainesville, Ga.

A. G. Platt, overseer of carding for the Bates Mfg. Co., of Lewiston, Me., has resigned and accepted a position as superintendent of the carding department of the West Boylston Mfg. Co., Easthampton, Mass. Mr. Platt is a man of wide experience, having been overseer in some of the largest mills in the country.

Geo. H. Kramer has been appointed overseer of the No. 1 weaving department in the Bigelow Carpet Company's plant at Clinton, Mass., to succeed Wm. H. King.

James M. Fraser has been appointed overseer of carding at the Plainfield Woolen Co., Central Village, Conn. He comes from Stafford Springs, Conn.

W. E. Tucker, overseer of carding at the Selma Cotton Mills, Selma, N. C., has severed his connection with that company.

Frederick Ashton, overseer of carding at the Plainfield Woolen Co., Central Village, Conn., has resigned.

Thomas Howorth, formerly of the Waxahachie Cotton Mills, Waxahachie, Tex., has been appointed superintendent of the Denison Cotton Mill Co., Denison, Tex.

P. B. Murphy, vice-president, general manager and buyer of the Newman Cotton Mills, Newman, Ga., during the past 10 years, has been elected president to succeed R. D. Cole, Sr., whose death occurred last month.

G. B. McCracken has accepted the position as overseer of carding and spinning at the Delta Cotton Mills, McComb City, Miss. He formerly held the position as overseer of carding at the Mobile Cotton Mills, Mobile, Ala.

Allen Cathcart, overseer of the picker room at the Cocheco Woolen Mfg. Co., East Rochester, N. H., has resigned.

P. B. Grouch, overseer of spinning at the Sibley Mills, Augusta, Ga., has resigned to accept a similar position at the Payne Mills, Macon, Ga.

Herbert Smith, for 6 years overseer of the weaving room at the Whitman Mills, New Bedford, Mass., has resigned. On the first of September he will assume the position of superintendent of the Davol Mills, Fall River, Mass., succeeding Richard G. Riley, who goes to the Gosnold Mills, New Bedford, in a like capacity.

T. Edward Hewitt, bookkeeper at the American Mills Company's office, Rockville, Conn., for a number of years, has resigned.

P. B. Ware has been promoted to the position of overseer of weaving at the Dwight Mfg. Co., Alabama City, Ala.

R. L. Hindman has accepted a position as overseer of spinning at the Fountain Inn Mfg. Co., Fountain, S. C. He comes from Columbia, S. C.

Geo. Sulloway, for the past 32 years employed at the Interlaken Mills, Harris, R. I., has severed his connection with that company. On his last day, Wm. Howarth, overseer of the weaving department, presented him with a handsome watch fob and a pair of gold link cuff buttons in behalf of the employes.

Will W. Ware has accepted a position in charge of the winding at the Aldora Mills, Barnsville, Ga. He comes from Rome, Ga.

H. D. Burns, overseer of carding and spinning at the Eastman Cotton Mills, Eastman, Ga., has resigned.

G. H. Lokey has resigned as overseer of carding at Jacksonville, Ala., to accept a similar position at Mill No. 2, Toccoa, Ga.

Thomas R. Morton has accepted a position in charge of the spinning, twisting, reeling and winding at the Mobile Cotton Mills, Mobile, Ala.

W. P. Hurt has accepted a position as overseer of carding at the new Locke Mills, Concord, N. C.

Samuel Brown, overseer of drawing and combing at the Star Worsted Mill, Fitchburg, Mass., has resigned. He was pleasantly surprised before leaving the mill by his employes, who presented his with a silver mounted umbrella, a Waterman fountain pen and a box of cigars.

Wm. Arnold, for a number of years second hand at the Manville Company's bleachery, Manville, R. I., has resigned to accept a position at the Sayles' Bleacheries, Saylesville, R. I.

Walter M. Hastings, for the last seven years connected with the Arlington Mills, Lawrence, Mass., has severed his connection with that corporation and will represent William Whitman in the management of the new merino yarn mill, which he is erecting in South Lawrence. David Dana Woodbury, who was at one time pay master at the Methuen Co., but who has now been with the Arlington Mills for some years, will take Mr.

Hastings' place as an assistant to Mr. Hartshorne, the agent of the company.

Hans W. Ringling, for the past year overseer of the finishing department at the Faulkner Mfg. Co., North Billerica, Mass., has resigned. He is succeeded by Wm. S. Taylor of North Billerica, who was in charge of the fulling department at the American Woolen Company's mill, Maynard, Mass.

G. W. Greenbank, overseer of carding at the Glen Woolen Mills, Norwich, Conn., has resigned to accept a similar position with the Davis & Brown Woolen Co., Uxbridge, Mass.

John Kernan, for some time overseer of carding at the Oakland Mfg. Co., Sykesville, Md., has accepted a similar position with the Edward T. Steel Co., Bristol, Pa.

Herbert R. Weston, superintendent of the carding at the West Boylston Mfg. Co., Easthampton, Mass., has resigned to accept a similar position at the new Kilburn Mill, New Bedford, Mass.

Charles H. Fish was seriously and perhaps fatally injured at Wappinger's Falls, N. Y., on Friday, July 28, by the breaking of a boom on a heavy derrick used on the construction of the Gerner Print Works & Bleachery, of which Mr. Fish is general manager. He was pinned under a piece of wreckage. Mr. Fish has been very prominent in textile circles in the United States by reason of his connection with the Cocheco Print Works at Dover, N. H., and other large enterprises in which he has been interested. He is a brother of the Hon. Nathaniel J. W. Fish of Taunton, Mass.

J. M. W. Jenkins, formerly superintendent of the Whitaker Mills, Blacksburg, S. C., has been appointed superintendent of the Mascot Mills, Bessemer City, N. C.

L. E. Osborne has been appointed superintendent of the American Net & Twine Co., Anniston, Ala.

Edward Costello, overseer of spinning at the Adams Woolen Co., Adams, Mass., has resigned.

Albert E. Kay, overseer of spinning at the Standard Spinning Co., Oswego, N. Y., has accepted a similar position at the Harmony Mills, Cohoes, N. Y.

J. H. Johnson, overseer of weaving at the Washington Mills, Fries, Va., has resigned.

Thomas Killduff, an overseer with the Little Falls Mfg. Co., has taken a similar position with the Skenandoa Cotton Co., Utica, N. Y.

Arthur Guyer has taken charge of the dyeing plant of the Geo. H. Gilbert Mfg. Co., Gilbertville, Mass., succeeding D. Shepheard, who recently resigned.

Joseph Billideau has taken charge of the burling and sewing at the Paragon Worsted Co., Woonsocket, R. I.

Joshua Cuttle has returned to the Merrimac Hat Co., Amesbury, Mass., as overseer of dyeing. He formerly held a similar position at the Franklin Felt Co., Franklin, Mass.

Charles E. Lawton, for many years master mechanic at the Palmer Carpet Co., Palmer, Mass., has been transferred to the Worcester mill owned by the same company.

Samuel Turner, Jr., who has been overseer of dressing at No. 1 Whitman Mill, New Bedford, Mass., will succeed Herbert Smith as overseer of weaving at the No. 2 Whitman Mill.

Fred C. Hall, overseer of spinning and finishing at the No. 2 Whitman Mill, has resigned to accept a more lucrative position with the Kilburn Mfg. Co. of New Bedford, Mass.

F. C. Trenholme, overseer of the napping department at the Dominion Textile Co., Ltd., Montmorency Falls, P. Q., Canada, has resigned.

Robert E. Wilcox, who has been master mechanic at the Arctic Mills, River Point, R. I., for more than 20 years, has severed his connection with that company.

Herbert F. Pepler, master mechanic at the Shetucket Mills, Norwich, Conn., has severed his connection with that company to accept a similar position at Wauregan, Conn.

John Sheehan, overseer of carding at the No. 3 Ellis Mill, Monson, Mass., has resigned. He is succeeded by J. Burdick of Hope Valley, R. I.

Wm. Hesselden, overseer of weaving at the Gregory Mills, Clifton, N. J., has resigned to accept a similar position with the Oakland Mfg. Co., Reisertown, Md.

Farrel Coyle, overseer of the printing department at the Cocheco Mills, Dover, N. H., met with a severe accident August 4. He was at work around a machine when he got one of his arms caught between the rolls and was quite badly burned. He was taken to his home on Spring St.

John Schofield, designer at the Cocheco Woolen Mfg. Co., East Rochester, N. H., has resigned to accept a more lucrative position in a mill at Pittsfield, Mass.

Napoleon Montiville has accepted a position as overseer of spinning at the Forestdale Mfg. Co., Forestdale, R .I.

Samuel Burrans, boss dyer at the Neponset Woolen Mills, Canton Junction, Mass., has resigned.

James E. Cavanaugh, for the past 18 years employed as overseer of the spinning department at the American Linen Co., Fall River, Mass., has resigned to accept a more lucrative one at the New York Mills, Utica, N. Y.

Thomas Horrocks, overseer of weaving at the Esmond Mills, Esmond, R. I., has resigned. He was presented with a beautiful diamond ring by the help in the weaving department.

Stephen Duffy, overseer of finishing at the Blackinton Mfg. Co., Blackinton, Mass., has resigned.

J. T. Davis, second hand in the cloth room at the Eureka Mills, Chester, S. C., has resigned to become overseer of the cloth room at the Marion Mfg. Co., Marion, N. C.

P. B. Raiford has been appointed overseer of the finishing department at the Locke Mills, Concord, N. C. He comes from New Orleans, La.

J. R. Blackston has succeeded B. Crouch as overseer of spinning at the Sibley Mill, Augusta, Ga.

B. M. Whaley has accepted the position as overseer of carding at the Hamburger Mills, Columbus, Ga.

John Stevens, second hand of carding at the Columbus Mfg. Co., Columbus, Ga., has resigned to accept a position as overseer of carding at the Ide Cotton Mills, Jacksonville, Ala.

J. B. Stroud has resigned as overseer of carding and spinning at the Durham Hosiery Mills to become overseer of spinning in one of the rooms of the Locke Mills, Concord, N. C.

J. H. Barnhill, overseer of carding and spinning at the Millfort Mills, Fort Mills, S. C., has resigned to accept a position as overseer of carding at the Florence Mills, Forest City, N. C.

J. J. Elliott has been appointed overseer of carding at the Monroe Cotton Mills, Monroe, Ga.

Hill Shirley has accepted a position as overseer of carding at the Norris Cotton Mills, Cateechee, S. C. He comes from Greenwood, S. C.

L. P. Darnell has accepted a position as overseer of spinning at the Calumet Mills, Liberty, S. C. He comes from Greenville, S. C.

Fenwick Umpleby, for the past fourteen years chief instructor of textile designs in the Lowell Textile School, has been appointed principal of the Bradford-Durfee Textile School at Fall River. Mr. Umpleby was born at Huddersfield, Eng., in 1852 and had filled responsible positions in various English woolen mills previous to his coming to the United States in 1885. From 1885 to 1897 he filled the position of designer in a number of the leading American mills, and in the last named year was appointed instructor and assistant director of the Lowell Textile School, where he remained until his appointment as principal of the Bradford-Durfee Textile School. The excellent record Mr. Umpleby has made as a practical manufacturer and textile educator is a guarantee of his success in his new position at Fall River.

J. T. Reeves, who resigned as overseer of carding at the Sycamore Mills, Sycamore, Ala., has accepted a similar position with the Mobile Cotton Mills, Mobile, Ala.

J. S. Drake, formerly superintendent of the Lockmore Cotton Mills, Yorkville, S. C., will take charge of the new Inverness Mill, Winston-Salem, N. C.

J. P. Thompson has been appointed superintendent of the Batesville Yarn & Cordage Co., Batesville, Miss.

T. H. Lever has been appointed superintendent of the Meridian Cotton Mills, Meridian, Miss.

D. L. Blackman has accepted the position of superintendent of the Harris Mfg. Co., Rock Hill, S. C.

B. L. Amick, superintendent of the Magnolia Mills, Concord, N. C., has resigned to accept a position as overseer of spinning at the Cannon Mills, same place.

A. O. Norris, formerly overseer of carding at the Cannon Mill, Kannapolis, N. C., has been appointed superintendent of the Magnolia Mills, Concord, N. C.

N. G. Cloniger has resigned as overseer of spinning at the Opelika Cotton Mills, Opelika, Ala., to accept a similar position with the Gray Mfg. Co., Gastonia, N. C.

F. G. Parker, overseer of carding at the Edenton Cotton Mills, Edenton, N. C., has resigned.

G. W. Brigman has been promoted to the position of superintendent at the Raeford Mfg. Co., Raeford, N. C.

C. E. Cole, formerly designer at the Glen Lowry Mill, Whitmire, S. C., will have charge of the weaving, slashing and cloth room at the York Cotton Mill, Yorkville, S. C.

T. Edward Hatch has been appointed Eastern sales agent for the N. E. Cotton Yarn Company and will manage the merchandising of the company's product in New England, New York, New Jersey, Pennsylvania and the Southern States, with office at 377 Broadway, N. Y. For the past five years he has been manager of the Philadelphia office of the same concern.

Patrick Mulligan has accepted the position as overseer of spinning at the Davis & Brown Woolen Co., Uxbridge, Mass., succeeding Thomas Moorehead.

James W. Bowman, overseer of weaving at the Oakland Mfg. Co., Reisertown, Md., has severed his connection with that company.

Thomas Killian has accepted the position as overseer of weaving at the Garland Woolen Co., Staffordville, Conn. He comes from Elmville, Conn.

G. A. Hagstrom has succeeded John Marshall as superintendent of the Narragansett Worsted Co., North Oxford, Mass.

John McDermott, overseer of carding at the Bennett Mill, No. 2, New Bedford, Mass., has severed his connection with that company, having decided to retire from active service. He was presented with a handsome gold watch by the help in that department.

James H. Barnett has been appointed treasurer of the Thistle Worsted Co., Danielson, Conn., to succeed W. B. Dunn.

Frank W. Potter, superintendent of J. & P. Coats, Ltd., Pawtucket, R. I., has resigned. Mr. Potter had been in the employ of this company for a number of years and was promoted from overseer to superintendent about eight years ago.

Chas. Anderson has accepted the position as overseer of spinning at the Bernon Mills, Georgiaville, R. I. He comes from the Newburgh Steam Mills, Newburgh, N. Y.

Morris Watkins, overseer of spinning at the Bernon Mill, Georgiaville, R. I., has severed his connection with that company.

Henry Murphy, designer at the West Boylston Mfg. Co., Easthampton, Mass., has severed his connection with that company.

H. H. Edgerly, overseer of carding at the Naumkeag Steam Cotton Co., Salem, Mass., has severed his connection with that company to accept a similar position with the Bates Mfg. Co., Lewiston, Me.

Geo. F. Annis has been appointed overseer of carding at the Naumkeag Steam Cotton Co., Salem, Mass. He formerly held a similar position at the Lyman Mills, Holyoke, Mass.

Walter Scott has accepted the position as overseer of carding for J. Broadbent & Son, Unionville, Conn., succeeding Thomas Pendergast.

Alex. MacMurray, Jr., overseer of spinning at the Esmond Mills, Esmond, R. I., has severed his connection with that company and is succeeded by Geo. Bottomley. R. H. Fish of the Montreal Cotton Co., Valleyfield, P. Q., Canada, has taken the position as overseer of the weaving department, succeeding Thomas Horrocks.

Andrew Smith, superintendent of E. Kenyon & Son's woolen mill at Kenyon, R. I., has severed his connection with that company. He was presented with an easy chair and a pipe by the employes of that mill. He has worked for this company for a great many years.

W. H. Sanders has succeeded C. C. Brigman as overseer of spinning at the Richland Mills, Columbia, S. C. He comes from the Capitol City Mills, Columbia.

W. C. Eason has been appointed overseer of carding at the Hamer Cotton Mills, Hamer, S. C. He comes from Duke, N. C.

Gordon M. Patterson, who has had charge of finishing at the Bellwill Mills, Wilmington, N. C., has accepted a similar position at the Avondale Mill, Birmingham, Ala.

H. F. Jones has accepted the position as overseer of weaving at the Monaghan Mills, Greenville, S. C., succeeding E. Bishop, who has been appointed superintendent of the new Alice Mill at Easley, S. C. Mr. Jones comes from the Highland Park Mill, No. 2, Rock Hill, S. C.

Robert Greaves, designer for the past 19 years at the Renfrew Mfg. Co., Adams, Mass., has given up his position on account of ill health and intends to visit his former home in Scotland. He is succeeded by Alex. Young, who has been employed for this company and who will look after the jacquard designing, also Robert Pow, who will do the designing for the narrow looms, Mr. Graves having had charge of designing for both departments.

Herman Andrews, formerly employed at the Atlantic Mills, Providence, R. I., has accepted a position as overseer of drawing at the Harrison Yarn & Dyeing Co., Pawtucket, R. I.

H. B. Potter, general manager of the Griswold Worsted Co., Darby, Pa., has severed his connection with that company. He has accepted a position with Chas. J. Web & Co., wool merchants, Philadelphia, Pa.

Thomas F. Trimble, superintendent of the Rensselaer & Valatie Knitting Mills, Valatie, N. Y., has resigned to accept a similar position with the Union Knitting Co., St. Johnsville, N. Y. He is succeeded by A. P. Pitcher of Hudson, N. Y.

C. M. Elliott has been appointed overseer of finishing at the Faulkner & Colony Mfg. Co., Keene, N. H.

James H. Fairbrother has accepted the position as overseer of carding and spinning at the Nasonville Woolen Co., Nasonville, R. I. He comes from Pascoag, R. I.

Frederick Roeheur, overseer of finishing at the Wuskanut Mills, Farnumsville, Mass., has resigned and is succeeded by Jos. C. Shaughnessey, who comes from the Barnsdale Worsted Co., Clinton, Mass.

H. E. Bates has resigned his position as superintendent of the Ottaray Mills, Union, S. C., and will take charge of the Merrimac Mills, Huntsville, Ala.

C. M. Ward, for many years employed as overseer in the woolen department at the Bigelow Carpet Co., Clinton, Mass., has concluded his services there and intends going West during the winter for the benefit of his health. The employes in his department, as an evidence of their kindly feeling and best wishes, presented him with a loving cup.

Patrick E. Silk has accepted the position as overseer of finishing at the Darling Woolen Mills Co., Holliston, Mass. He comes from the Beaver Brook Mills, Collinsville, Mass.

James W. Considine, overseer of weaving at the National & Providence Worsted Mills, American Woolen Co., Providence, R. I., died at his home, 160 Academy Ave., after a brief illness. Mr. Considine had charge of weaving in the Nos. 2 and 4 mills and was very popular with the help in that department.

Robert McDonald, master mechanic at the Goddard Bros.' mill at Hope, R. I., has given up his position after being employed with this company since 1872. He has held the position of master mechanic for the past 3 years.

N. F. O'Rourke has been appointed overseer of finishing at the two mills operated by the Sangerville Woolen Co., Sangerville, Me. He comes from Monson, Mass.

Fred Roberts has been appointed superintendent of the No. 2 Capron Knitting Co., Utica, N. Y.

A. H. Cottingham, for the past year connected with the operation of the Ottaray Mills, Union, S. C., has been promoted to succeed H. E. Bates as superintendent.

Earl Lockman has accepted the position as overseer of weaving at the Mascot Mill, Bessemer City, N. C. He comes from Crowder's Mountain, N. C.

DEATHS.

Ethan D. Griswold, a prominent cotton manufacturer of Brooklyn, N. Y., and who had gone to Poland Springs, Me., for the summer, died at that place. He was president of the Griswoldville Mfg. Co. of Griswoldville, Mass., and of the Turners Falls Cotton Mill, Turners Falls, Mass. He is survived by a wife and one son.

Peter Bruggemann, superintendent of the Rossi Velvet Mills, Mystic, Conn., was seized with an attack of heart trouble and dropped dead almost instantaneously while in the act of telephoning. He had been in poor health for some time and was taking a vacation for a few weeks to recuperate. He had rowed across the lake from where he was camping to order food as was necessary when death overtook him. The news of his sudden death will be greatly felt in Mystic as he was considered very prominent.

Frederick H. Daniell, one of the foremost and most industrious citizens of Franklin, N. H., died July 28 at his home on View St., after an illness which began last spring, at the age of 49 years. For about 25 years Mr. Daniell had labored as superintendent and manager in helping to place the Sulloway Hosiery Mills in the front ranks of this country's hosiery manufacturers. It had been for a long time the biggest industry in this city and one of the largest of its kind in the United States. He was a member of the Meridian Lodge, A. F. and A. M., and St. Omer Chapter, R. A. M. He was a past master workman of the Winnipiseogee Lodge, A. O. U. W. He was honored by election to the board of trustees of the Franklin Savings Bank, and also the board of directors of the Peterborough and Hillsborough railroad. He was also a director of the Dominion Chemical Co., of the Province of Quebec. He is survived by a widow, one son and a daughter.

Marcus B. Parmenter died Tuesday, July 25, at hi shome on East High St., Franklin, N. H. He had been failing for about one year and death was due to cancer of the liver. Mr. Parmenter was born in Montpelier, Vt. He moved to Laconia from Hardwick, Vt., and lived in Laconia about 28 years. He was in charge of sorting waste at the Pitman Mfg. Co., when he retired from active labor about 15 years ago. Seven years ago he moved to Franklin and was a member of the Methodist Episcopal Church at that place. He is survived by a wife, one son, three brothers and two sisters.

Frank Broadbent died at his home on Main St., Lonsdale, R. I., after an illness of a few days. Mr. Broadbent has resided in Lonsdale for the past five years and was employed at the Lonsdale Bleachery. He is survived by a widow and seven children.

Thomas K. Webster, a well known resident of the Southeastern section of Fall River, Mass., and for over 30 years overseer of the folding and finishing department at the Fall River Bleachery, died Saturday, July 29, at the New England Deaconnesses Hospital in Brookline. Deceased was a member of the Masonic order. He is survived by a wife and two daughters.

Daniel A. Feehan of Clifton Heights, Pa., superintendent of the Nelson Kershaw Mills of that borough, died suddenly August 10 of apoplexy, superinduced, it is believed, by injuries inflicted by a highwayman more than ten years ago. Since that time Mr. Feehan had continually complained of the pains in his head.

Julius Leithold, treasurer of the firm of Meyer & Leithold Silk Dyeing Co., Inc., Collins St., near Allegheny Ave., Philadelphia, Pa., was found drowned at Atlantic City, N. J., on July 27. Some time passed before his identity was established and it was first thought that he had been murdered. The indications are, however, that he was drowned while bathing. Mr. Leithold was 49 years old and is survived by a widow and a daughter.

Adolph Pfeiffer, formerly superintendent of the Tinkham Mills, at Harrisville, R. I., in the town of Burrillville, died on Friday, August 5, at the home of his nephew, Henry R. Schwartz. He retired from active mill life about two years ago. He was well known in the textile world as superintendent at various times of several other New England mills.

Stephen H. Shallecross, director and former president of the Louisville Cotton Mills Co., Louisville, Ky., died recently.

Knight Dexter Cheney, a member of Cheney Bros., silk manufacturers at South Manchester, Conn., and who for many years had charge of the New York salesrooms, died in South Manchester August 17 from pneumonia, at the age of 40 years. He was a member of the University and Merchants' clubs of New York and of the Graduates' Club of New Haven.

Arthur V. Rockwell, a prominent silk manufacturer of Matteawan, N. Y., died August 17 at his home at Glenham, a suburb, at the age of 44 years.

Aaron White Cook Williams, one of the most prominent manufacturers of Hartford, Conn., died August 6. For nearly a year he had not been able to engage actively in his business. Mr. Williams was born in Manchester, Conn., Aug. 29, 1833. While only a boy he began working about the mills in his native town, after school hours and during his vacations and as soon as he had finished the course in the public schools he worked in the Cheney silk mills, staying there about 15 years. In the early sixties he went to Bridgeport, where with several other men he started the Williams Silk Mfg. Co. This business prospered under his direction but in 1869 he withdrew his interest in the company and went abroad. In England and France he engaged in mercantile and manufacturing enterprises and was highly successful in them all. After twenty years abroad Mr. Williams returned to this country, determined to retire from active business, but together with several other men he founded the Capewell Horse Nail Co., and was elected a treasurer and general manager. Mr. Williams was a director of banks and a member of Hartford Lodge, A. F and A.

M., Pythagoras Chapter, R. A. M., Wolcott Council, R. and S. M., and Washington Commandery, K. T. He is survived by his wife.

John Remington Kent, one of the best known of the Pawtuxet Valley residents, died at his home on Wakefield St., Clyde, R. I., August 8, at the age of 86 years. He was born in the town of Johnston, R. I., July 4, 1824, and has been a resident of the Pawtuxet Valley for over 50 years. For 18 years he was employed as foreman of the finishing department for S. H. Greene & Sons at the Clyde Print Works. He was largely interested in educational work and was Principal of the Phenix Grammar School over 40 years ago, holding the position for a period of nine years. He was largely interested in temperance work and was one of the leading officers in the Temple of Honor and had the distinction of having been Past Grand Templar. He was postmaster at Phenix for a period of five years and was also interested in town affairs. Mr. Kent was a former member of Warwick Lodge, No. 16, F. and A. M. of Phenix.

William H. Redding of 20 Woodland St., Worcester, Mass., a retired cotton mill superintendent, died Aug. 6 at his home, at the age of 64 years. He had charge of the Wheeler Mills in Millbury at one time. He was born in Grafton. Besides his widow, he leaves a son and a daughter. Mr. Redding was a member of the Worcester County Mechanics' Association.

Martin Stack, secretary of the Troy Waste Mfg. Co., Troy, N. Y., and conceded to be one of the foremost waste experts in America, died at his home in that city, August 7. Mr. Stack was interested in the Faith, Troy and Greenwich Knitting Companies, and other textile concerns. He is survived by his parents, his widow, three sons, two daughters and two brothers.

Thomas Tobin, for many years a resident of Thornton, R. I., died August 5 at St. Joseph's Hospital at Hillsgrove, where he had been for three weeks. Mr. Tobin worked for a long time in the mill of the British Hosiery Co., at Thornton, but about four months ago was compelled to give up active labor owing to his failing health. He is survived by a wife and three children.

Rhodes K. Edwards, a former cotton manufacturer of Westboro, Mass., died at the home of his daughter, Mrs. Frank Brown, in this city, at the age of 78 years. He is survived by four children.

Charles Henry Herff, a member of the firm of Heinemann & Co., cloth brokers of New York City, correspondents of Clinton V. S. Remington of Fall River, Mass., died of acute Bright's disease at his home, 929 West End Ave., New York City, Sunday, August 14. He was 29 years of age and unmarried. Much regret was expressed among the mill men of Fall River at hearing the sad news as he was one of the best known cotton cloth brokers and had many friends among the manufacturers of cotton cloths.

James Herbert Foster, one of the best cotton brokers of Providence, R. I., died suddenly at the Parade Street Hospital after a few hours' illness, August 10, at the age of 59 years. Shortly after 1 o'clock he became ill and later was removed to the hospital. He was a son of Samuel and Priscilla (Smith) Foster.

William Powell, a member of the firm of the Powell Knitting Co., 28th and Parrish Sts., Philadelphia, and also a member of the Consolidated Stock Exchange, died at his home, 197 Midland Ave., Montclair, N. J., of apoplexy. Funeral services were held from the Powell homestead and interment was at the Mount Hebron Cemetery, Upper Montclair.

Col. Wm. Prescott Stoddard, for many years treasurer of the Plymouth Mills Corporation, Plymouth, Mass., died at his summer home, 27 Freemont St., at the age of 64 years. He was the son of the late Mr. and Mrs. Isaac N. Stoddard and attended the public schools of Plymouth. He then graduated from Harvard University in the class of 1866. He was a director of the Plymouth National Bank, trustee of the Plymouth Savings Bank and the Pilgrims' Society. He was appointed a member of Governor Brackett's staff Dec. 7, 1889, with high endorsement of the Republicans of Plymouth, Norfolk and Barnstable counties. At the dedication of the national monument to the Pilgrims on Aug. 1, 1889, he was chief marshal of the parade. He was a member of the Old Colony Club and noted for his ability in telling stories for the amusement of his hearers. He was also very popular in social gatherings.

Luther J. Jowett, of Springvale, Me., died at his home in that town at the age of 48 years. He came to this country when a young man and for a number of years was a foreman in the Goodall Worsted Company's spinning department. After leaving there he went to Springvale where he took charge of the spinning department for the Maine Alpaca Co. and was afterwards given the position as superintendent of this firm.

S. M. Levy, president and superintendent of the National Knitting Co., Milwaukee, Wis., and for 30 years a resident of Milwaukee, died at the home of his son, Samuel E. Levy, at Houghton, Mich., at the age of 65 years. He was born in Germany and came to America when a young man. He is survived by a widow, two sons and four daughters.

Wm. B. Asquith died at his home in Lowell, Mass., at the age of 66 years. He was a native of Yorkshire, Eng., and had been overseer of weaving at the Fulton Mills, Oswego, N. Y., some years ago, and later with what was known as the Hollow Mill at Fitchburg, Mass. His last position was with the U. S. Bunting Co., Lowell, which position he gave up some years ago on account of illness.

Chas. K. Oliver, at one time president and afterwards vice-president of the Consolidated Cotton Duck Co., Baltimore, Md., died August 22 on board the German-American liner, Grosser Kurfurst. Mr. Oliver left London for America August 13 after an extended trip through Europe. He leaves a widow, one daughter and one son.

New Publications.

[Any work noticed under this head can be obtained through the office of this journal.]

Australian Sheep and Wool; by Alfred Hawkesworth; 395 pages, 5 1/2 by 8; William Brooks & Co., Sydney, Australia. Price $3.

This book is written by a lecturer in charge of the sheep and wool department at the Technical College, Sydney, and has reached its second edition. The author's object has been to prepare a complete text book of the wool growing industry for the reader and farmer. The first section of the work deals with the sheep, its selection for mutton and wool, and contains an account of the different breeds, including a chapter on the angora goat. The next section deals with wool, its structure, varieties and defects. The third section treats of wool classing. The wool manufacturer and dealer will find much of interest and value in the volume.

Weaver's Ready Reckoner (Bareme du Tisseur); by A. Schoendorff; 21 pages, 4 1/2 by 7; C. Cuny, Vosges, France. Price $1.00.

This is a collection of tables showing the amount of warp or filling yarn required for fabrics of various picks and yarn counts. It is adapted to French practice and based upon the picks per quarter inch, which evidently still remains the standard for fabric structure in France. A new edition of the work in course of preparation, will include a comparative table showing the equivalent number of threads by the French inch and the centimeter. The text is in French.

Business Literature.

How to Save Fuel; The Dodge Mfg. Co., Mishawaka, Ind.

This pamphlet tells an interesting story on how the Eureka system of softening and purifying water for boilers was originated and developed by the Dodge Mfg. Co. The trouble they had with boiler scale and the resulting waste of fuel and damage to boilers led them to investigate the principle underlying the Eureka water softener and purifier. The results were so satisfactory that arrangements were made to manufacture the machine. The pamphlet gives a list of users of the Eureka softener and purifier throughout the United States, Canada and Mexico.

Cutting Machines Exclusively; Oswego Machine Works, Oswego, N. Y. 79 pages, 8 by 11 inches.

This attractive catalogue gives an illustrated description of the extensive line of cutting machines built by the Oswego Machine Works. These machines are adapted for textile mills, glove manufacturers, paper mills, paper dealers, printers, book binders, lithographers, box manufacturers, wall paper manufacturers, manufacturers of leather goods, label and band makers, and novelty manufacturers, and range from a 300-pound bench cutter to a 7-ton Brown & Carver automatic clamp cutter. Chapter 5 of this catalogue is devoted to Oswego cutters that are especially adapted for textile work. These include the vertical stroke Oswego cutter for pinking cloth samples or cutting cards. The catalogue gives very full information regarding construction and operation of these machines, the description being aided by illustrations of a very high order. Among the textile mills using Oswego cutters we note the following: Globe Tailoring Co., Cincinnati, O.; International Tailoring Co., Chicago and New York; Fred Kauffmann, Chicago, Ill.; Lamm & Co., Chicago, Ill.; Edward V. Price & Co., Chicago, Ill.; Royal Tailors, Chicago, Ill.; Schoenbrun & Co., Chicago, Ill.; Edward E. Strauss & Co., Chicago, Ill.

Circular No. 79. Published by Dean Bros. Steam Pump Works, Indianapolis, Ind.

This circular gives a table showing the capacity of steam pumps, given diameter and length of stroke. It also gives a sectional view showing special points of construction of the Duplex Durable Steam Pump.

Iron in Water; Hungerford & Terry, Inc., 1414 Pennsylvania Bldg., Philadelphia, Pa.

This company has published in pamphlet form an article by Churchill Hungerford on the above subject which appeared in our July issue. It will be mailed to those interested in a remedy for iron in water.

"Maximum" Silent Chain; Link-Belt Co., 299 Broadway, New York.

This is a 40-page booklet in which the power transmitting chain, manufactured by the Link-Belt Co., is illustrated and described. It shows clearly the advantages of this method of power transmission.

Lock and Hardware Catalogue; Yale & Towne Mfg. Co., New York and Stamford, Conn.

This is a 900-page loose leaf catalogue with an accompanying price book. It is printed on fine coated paper with over 4,000 illustrations. Following is a summary of the contents: Introductory Section; Customary Indexes, and brief interesting articles regarding Padlocks; Locks and Latches; Door Checks; Miscellaneous Hardware arranged by Schools, and Cabinet and Trunk Locks.

A noticeable feature of the book typographically is the omission of all rules, both vertical and horizontal. By a careful arrangement of type the important matters are emphasized as clearly as by the old method of separating them by vertical and horizontal rules.

The various types of locks and miscellaneous hardware are shown mounted on a sample board prepared like an actual door.

The book is from the press of the American Bank Note Co., and both the printers and the Yale & Towne Mfg. Co. are to be congratulated on this high grade volume.

The Rope You Can Trust; Plymouth Cordage Co., Plymouth, Mass.

This booklet contains some interesting facts for the consumer who uses rope and for the dealer and jobber who distribute it.

Fenwick Umpleby.

Last month Fenwick Umpleby, professor of designing at the Lowell Textile School, resigned his position to accept that of principal of the Bradford-Durfee Textile School at Fall River.

Professor Umpleby has had a successful career both as a manufacturer and a textile educator. Born in 1852 at Huddersfield, Eng., he was apprenticed to a firm of machinists and manufacturers and later became manager for the same firm. He was graduated from the Huddersfield Mechanics Institute in 1875 and before coming to America in 1885 he filled the positions of superintendent and designer in a number of leading mills

PROF. FENWICK UMPLEBY.

of Yorkshire. During his service in the mill he completed a course of study at Yorkshire College, from which he was graduated in 1885, and at the City and Guilds of London, where he was awarded a diploma.

Coming to the United States he took charge of the dress goods and cassimere department at the mills of James Lees & Sons, Bridgeport, Pa. He later became designer at the Globe Mills, Utica, N. Y., and at George H. Gilbert Mfg. Co.'s mills, Gilbertville, Mass., where he remained until his appointment as instructor and assistant director at the new textile school established at Lowell in 1897. His service began with the opening of the school and continued for fourteen years until his recent resignation. During that time he has contributed in a great measure to the success attained by the Lowell Textile School. Always a student himself, he has combined a marked ability to impart information to others, with industry, enthusiasm and ambition.

During his service in the Lowell Textile School he has visited Europe a number of times to take special courses at various colleges. Professor Umpleby's resignation is a distinct loss to the Lowell Textile School, although fortunately he leaves behind him an excellent corps of assistants trained to his system.

American Wool Scouring Machinery for China.

The James Hunter Machine Company is shipping a wool washing outfit to Tien Tsin, China. This is the second shipment of the kind to that far-away country, the first having been made last fall. That a second order has been received so soon shows that the first must have been satisfactory.

A great deal of wool is raised in China and much of it is shipped to this and other countries. Formerly it was shipped with all the grease and dirt in it, but it finally occurred to some of the shippers that it would be well to wash the wool and ship a clean article.

When this decision was reached wool washing machinery was found necessary, and last fall the Chinese people who are in the business called upon their representative in this country to look up the best wool washing machinery. The task was assigned to the mechanical expert of a New York house, who made a careful investigation of wool washing machinery, and the result was that the order for what was wanted in Tien Tsin at that time was placed with the James Hunter Machine Company of this city, although the price was considerably higher than those made by competitors. It was a case where the best was wanted; the investigator, who had no personal interest in the matter, decided that the Hunter machinery was the best produced in this country, and so the order was placed with that company.

The receipt of the second order shows that the first consignment of machinery was satisfactory. As stated, the machinery is now being loaded on the cars for shipment to New York, from which port it will go by water. It will take several cars to carry the machinery to New York. The machinery is very heavy and has to be packed with great care for its long journey to China.

The reputation of the Jas. Hunter Machine Co., long established in all parts of the country, now extends across the seas to all parts of the world. —The North Adams Transcript.

De La Vergne Agencies.

The De La Vergne Machine Co. of New York, builders of oil and gas engines, have recently established agencies for the sale of their various types of engines at the following points: Boston, Mass., 201 Devonshire St., Mr. A. W. Doe, Manager; Philadelphia, Pa., 380 Bourse Bldg., Mr. W. T. Price, Manager (Power Dept.); Atlanta, Ga., Candler Bldg., Mr. Wm. Hargreaves, Manager; Kansas City, Mo., 304 R. A. Long Bldg., Mr. F. L. Weakley, Manager; Denver, Colo., 567 Gas & Electric Bldg., Mr. D. H. Smaller, Manager; Houston, Tex., De La Vergne Engine Co., Commercial Bank Bldg., Mr. H. R. Lucke, Manager; Chicago, Ill., Security Bldf., Mr. E. H. Cox, Manager.

Power Control.

A magazine named "Power Control" is to be issued quarterly by the Woodward Governor Co., Rockford, Ill. The first number appeared in August of this year and will be mailed free to all using water power, to those who have water power available, but are not at present employing it, and, in fact, to any one connected with the use of water power.

It has 16 pages, is artistically printed and designed, and contains matter of value to managers of electric plants, textile, cotton and paper mills, and all other factory owners.

The Woodward Governor Co. began business in 1870 in small rented quarters. As this building afterwards burned down, business was removed in 1873 to a more pretentious two-story frame building. The manufacture of mechanical water wheel governors was not at that time heavy enough to be followed exclusively, but was conducted in connection with pattern and general machine shop work.

Although business grew steadily from the start, it received a still stronger impulse when E. E. Woodward, the present manager, took control in 1885. Such was the growth that, shortly after that date, it was necessary to drop all side lines and devote their entire attention to the manufacture of the Woodward water wheel governors.

In 1893 it was found necessary to move into a still larger building, which answered their purpose until a year ago, when they were again crowded out. Accordingly, in June, 1909, ground was broken for a new plant, and eight months later the main building was completed. It is five stories high, 140 feet long, 64 feet wide and of the most modern fireproof construction—reinforced concrete throughout, including floors and roof. Each floor is lighted by 2,500 square feet of window space, and even in cloudy days there is abundant light in any part of the building for the most delicate work.

In addition to the main plant, there are two smaller buildings, at present rented. There is also a large steam plant for heating and power, and a hydro-electric power house supplying electric current for power and lighting purposes. The power plant is self-regulating and requires no attention from the engineer except when starting and stopping. No voltage regulator is used, but a type D Woodward governor maintains the voltage constant within one per cent. of the normal without any other regulating device.

All names sent to Woodward Governor Co., 204 Mill St., Rockford, Ill., will be entered free on their subscription list and copies of "Power Control" promptly mailed regularly.

Bellicosa.

For sizing purposes the Bellicosa softener, brought out by the Arabol Mfg. Co., 100 William St., New York, offers special advantages by its cheapness and the ease in handling. It is not necessary to dissolve more of it at a time than is required for each batch of size.

*Wisconsin, Milwaukee. An addition, 80 by 60 feet, will be erected for the Holeproof Hosiery Company.

Cotton Machine Builders Join in Selling Arrangement.

An interesting announcement has recently been made of a selling arrangement entered into by the Potter & Johnston Machine Co., the Fales & Jenks Machine Co., and the Woonsocket Machine & Press Co., by which their cotton machinery will continue to be handled in the South by J. H. Mayes with offices at Charlotte, N. C., and in the North by William Muir, with offices at Providence, R. I. Mr. Mayes has represented these concerns in the South for some time past and has been able to figure on complete equipment by the installation of the machinery of these concerns and some other lines which he represents.

Mr. Muir has been for many years connected with the English plant of Howard & Bullough, Ltd., and lately with the Howard & Bullough, American Machine Co., Pawtucket, R. I.

The Potter & Johnston Machine Co. have within a comparatively short time brought out a line of opening and picking machinery which embodies the ideas of Mr. J. C. Potter, whose many years of experience in building this class of machinery has given him a wide reputation in the cotton manufacturing trade. This new line of machinery has met with much success and this company will build a large addition and when completed will manufacture revolving flat cards.

The Woonsocket Machine & Press Co. supplies the speed frames and roving machinery and the Fales & Jenks Machine Co. builds the ring spinning machinery, so that these concerns can supply the entire equipment for a spinning mill.

Arrangements have also been entered into so that the agents will supply Nasmith combers or Hetherington mules, manufactured by John Hetherington & Sons, Ltd., where contracts for complete mill equipment are taken. In the promotion of new mills by extensive enlargement of existing plants it has been the growing custom for promoters to desire bids on complete machinery equipment. This has resulted in more or less formal selling arrangements or understandings whereby certain lines of machinery are usually figured for an equipment. It is advantageous to the mill owner and to the machinery builders. This new arrangement offers to mill owners another opportunity to obtain figures from one source on a complete line of mill equipment.

Amoskeag Textile Club.

The Amoskeag Textile Club, composed of officials, overseers and others connected with the Amoskeag Co., held their annual summer outing at Hampton Beach, N. H., August 13. W. Parker Straw was elected president and in his after-dinner talk explained the plans which were outlined for the new organization. The old Amory Mill office will be utilized by the club, the first floor being used for general living rooms. A library and pool room will occupy the floor above, and there is to be a roof garden. Altogether it will be very pleasant headquarters for the members of the organization in their leisure hours.

Scott & Williams Incorporate.

The long established firm of Scott & Williams, builders of knitting machinery, has been incorporated with a capital of $1,500,000. It will hereafter be known as Scott & Williams, Inc. The officers are Robert W. Scott, president, Louis D. Williams, vice-president, and Philip M. Reynolds, secretary, treasurer and general manager. Messrs. Scott and Williams are, of course, members of the old firm. The new member and active manager hereafter, Mr. Reynolds, is now treasurer of the Ipswich Mills, of Ipswich, Mass., probably the largest knitting mill in New England and one of the largest in the country. In the comparatively few years that Mr. Reynolds has been treasurer and manager of this concern it has greatly increased its business and capacity and placed itself in line with the most progressive modern business development.

Messrs. Scott and Williams have for some time past desired to be relieved of the active management and attention to details of their constantly increasing business so that they might give more time to the perfection and development of new inventions and the manufacturing end of the business. Some of the new machinery which they have invented and developed has been epoch making in the knit goods trade.

Mr. Reynolds, as treasurer of the Ipswich Mills, was one of the first to realize the importance of some of their recent developments, particularly the automatic seamless hosiery machines, and the Ipswich Mills have now one of the largest installations of this line of machinery. His own successful business experience as a manager and financier, coupled with the inventive genius and proved mechanical and business ability of the senior members of the new concern, promises a future with even greater measure of success and leadership in the knitting industry.

A New Belting Concern.

A new firm of belting manufacturers has entered the field in the organization of the Olmsted-Flint Company. The new firm will maintain its principal sales office at 136 Liberty St., New York, with a branch house at 1026 Arch St., Philadelphia. It is expected in the near future that branch houses will also be established in Boston and Chicago. The incorporators of the new company are Willard I. Olmsted, Stanley B. Flint and George S. Baker.

The new company, it is understood, has taken over a large belting factory in Philadelphia for the manufacture of its leather belting. In addition the firm will also manufacture and sell a complete line of rubber belting, canvas stitched belting, balata belting and solid woven belting. They will also represent exclusively in the United States several large European manufacturers of belting and transmission specialties.

The new firm will make a specialty of textile mill business. Mr. Olmsted, president of the Olmsted-Flint Company, has for several years past represented a large belt manufacturing house, traveling mostly in New England, where he has a personal acquaintance with the heads of many of the leading textile mills, several of the largest of which he has equipped completely with transmission equipment. Mr. Flint, vice-president of the company, is also well known in the belting fraternity, having traveled in a sales capacity over most of the United States. Mr. Baker, secretary of the company, is well known among the mechanical men in the textile mills. He has for some time past been editor of a belt engineering publication. F. M. Schiffmacher, one of the best known transmission engineers, will act as the head of the engineering and experimental department of the new concern.

Tempered Steel Reeds.

The J. A. Gowdey Reed and Harness Mfg. Co., Providence, R. I., have recently built and moved into a new plant arranged in every detail which years of experience could suggest for the manufacture of loom reeds. They are now fully prepared to deliver reeds of all descriptions and of the quality which has given them their reputation and standing in mill circles for over three-quarters of a century. Established in 1834 and incorporated in 1900, they can be classed among the oldest in the country.

In the manufacture of tempered steel reeds, which they began early in 1904, they are aided by the best machinery and apparatus obtainable. In the construction of their reeds only the best materials are used and skilled workmen employed, many of whom have been with them from 10 to 45 years. With over 20 tons of reed wire always on hand, they are in a position to turn out guaranteed work of any description upon the shortest notice, such as leice and hook reeds, metal reeds for silk weaving and tempered steel reeds for wire weaving.

We wish them all success for the future.

Many Hygrosso Installations.

John W. Fries, 88 Centre St., New York, manufacturer of the Hygrosso humidifying system, has recently furnished equipment to the Oswegatchie Mfg. Co., Ogdensburg, N. Y., Cleveland Mill & Power Co., Lawndale, N. C., Brown Mfg. Co., Concord, N. C., and the Matteawan Mfg. Co., Fishkill on the Hudson, N. Y.

They are also making installations in the following mills: Hampton Co., Easthampton, Mass., a repeat order from A. J. Cameron & Co., Philadelphia, Pa., Cornelius Mfg. Co., Cornelius, N. C., Mannetta Mills, Lando, S. C., Johnson & Johnson (a repeat order), New Brunswick, N. J., Wymojo Mills, Rock Hill, S. C., Neeley Mfg. Co., Yorkville, S. C., La Porte Woolen Mills, La Porte, Ind., Clyde Cotton Mills, Newton, N. C.

Most of the above equipments are direct connected motor driven apparatus with their individual automatic control on each head.

In addition to the above, The Leader Weaving Co., Central Falls, R. I., are changing their equipment in their entire mill and are installing their motor driven apparatus with individual automatic control

Porous Rainproofing Process.

Miller & Harrison, Wissahickon, Philadelphia, Pa., are now prepared to use the Rellim porous process of rainproofing cotton, worsted, woolen and silk fabrics. Rainproofing processes are widely used in England and on the Continent. Various processes are employed. The Rellim is claimed to be the only process of rainproofing used in America which stands laundering without affecting the rainproof qualities of the cloth. They do work for selling houses, converters and mills selling direct and solicit correspondence in regard to their process. They will treat samples without charge.

Textile School Phi Psi Fraternity.

The seventh annual convention of the Phi Psi Fraternity was recently entertained by Gamma Chapter of the Lowell Textile School at Lowell, Mass.

Members from the Philadelphia, New Bedford and Fall River textile schools, together with graduate men from all parts of the country where textile industries are located, were taken in automobiles to the Vesper Country Club on Tyng's Island.

Through the courtesy of Edgar H. Baker, who has executive charge of the woolen and worsted departments at the Lowell Textile School, the freedom of the club buildings was tendered the visitors. By means of tennis, golf and boating the time was most pleasantly passed until evening, when some fifty odd men sat down to a lobster dinner served in one of the club's dining halls. The latter part of the evening's entertainment consisted of an informal smoker, during which the non-active members became acquainted with those active in school.

At ten thirty the following morning the regular business session of the Fraternity at large was called. Several important matters were acted upon, and the officers of the Grand Council were elected for the ensuing year as follows: President, Harold H. Hart, superintendent of the Racine Woolen Mills, Racine, Wis.; vice-president, Albert G. Neel, superintendent of the Supreme Underwear Mills, Utica, N. Y.; secretary, John B. Eherenfried, Lewiston, Me.; treasurer, Robert L. Dawson, superintendent Buell Mfg. Co., St. Joseph, Mo. After the adjournment to June, 1911, at which time the convention will be entertained by Delta Chapter of the Bradford Durfee Textile School of Fall River, Mass., a very enjoyable trip was taken up the Merrimac River.

In the evening, at the Hotel Waverly, occurred the annual banquet, at which over fifty covers were laid. Toastmaster George C. Welch, of the Lowell Chapter, called for responses from A. M. Brown, of Philadelphia; Roger H. Wilcox, of New Bedford; Everett R. Rich, of Lowell; and Lawrence Kearns, of Fall River. The banquet was a most enjoyable affair, and was attended by the largest number of any of the previous ones. Sunday afternoon the visiting delegates took their departure after one of the largest and most successful of the fraternity conventions.

Phi Psi Fraternity was founded at the Philadelphia Textile School in 1903, and is an incorporated body under the laws of the State of Pennsylvania. There are, at present, four chapters located in the textile schools of Philadelphia, New Bedford, Lowell and Fall River. The fraternity takes its members from textile schools only, and has for its objects the betterment of its members in their various branches of the textile industry by keeping them in close touch with one another, and by keeping them informed as to the conditions of trade and manufacture in every part of the country. Its men are found in all parts of the country and in England, Canada, Mexico, China, India and Japan.

A bulletin is published from time to time and distributed so that those in one part of the world may keep track of those in other parts. A bureau is run from which a member may request any desired information regarding his particular business. This information is sought from the men engaged in a similar pursuit and the results turned over to the inquirer. Another bureau is maintained by means of which members, upon request, are informed of vacancies in their line of business, and efforts are made to secure them suitable positions.

Home Bleach and Dye Works' Outing.

The employes of the Home Bleach and Dye Works, Pawtucket, R. I., held their annual outing at Rocky Point last month with about 150 in attendance. They were met at the Point by Manager E. J. McCaughey and were entertained by a game of baseball between teams from the grey room and warp dye houses. A Rhode Island clam bake, throwing the hammer contests won by Patrick McHale, 100-yard dash won by John McHale, sack race won by Roland Miller, 3-legged race in which P. McHale was the winner, and a hop, skip and jump contest in which James O'Donnell and R. Commeau were the victors, were among the features. The outing was a success in every way. Special credit is due to the company for financial support and to the committee in charge consisting of Martin Welch, John Dooley, Daniel McGowan and Frederick Hilton.

Colonial Cotton.

Lancashire is jealous as to the labor employed in the growing of its cotton. This subject was alluded to by Sir Charles Dilke in the course of a discussion last week in the House of Commons. Sir Charles remarked that "he could not suggest that forced labor was anywhere used now for growing cotton, but that it had been used until stopped there was no doubt." Further, he said that "there was an unfortunate desire on the part of some people to adopt means of obtaining cotton which no one in that House would stand up for," and "he was sure there was need for watchfulness." Sir Charles went on to say that he was sure he would have the support of all friends of the British Cotton Growing Association in saying that, however much they wanted cotton, they did not wish to see labor degraded by its being arti-

ficially brought in under unfair conditions because it would not pay under conditions which were fair. That is the point in a nutshell. We do not want slave-grown cotton, or, indeed, any commodity produced under slavery, and users should take good care, wherever they can exert influence, that this state of things is not tolerated.—Cotton Factory Times.

Wool Classing.

Some exceedingly interesting evidence was given before the Wool-classers' Wages Board in Sydney recently. Briefly it stated that graziers had found that technical instruction in the classing of wool was unnecessary.

Mr. Frederick Campbell, grazier of Yarranumbla station, near Bingara, said that, having had considerable experience in wool and wool-classing, he had often classed his own clips. Subsequently he had employed a classer at 25s. and 30s. a week and his board to do the work. That classer had no technical instruction, but had gained his experience on the station. From 1906 to 1909, inclusive, he had paid a classer at the rate of 20s. per 1,000 sheep, and the numbers ranged from 24,000 to 30,000. The weekly earnings of the classer in the years mentioned ranged from £4 10s. to £8. Under the claim that was now before the board the classer would have earned £6 4s. per week in 1906, and £10 17s. 3d. per week in 1909. The claim of 25s. per 1,000 would be very unreasonable in the case of a large shed, and then a classer could earn £6 5s. per day. Very little classing was required with lamb's wool. A shed overseer had infinitely more responsibility than a classer, and also worked longer hours. There was practically no difference in the work of classing a large or a small shed. He could teach a man to do his classing of wools in a fortnight. He had always received high prices for his clip.

Questioned by Mr. McNaught, the witness stated that the average increased weight per fleece since 1886 was only about 1 lb., the average for his flocks being about 8 lbs. per fleece. Last year he had paid 20s. per 1,000 sheep for wool-classing, and he considered the classers had been well paid. When the work was well done he usually gave the classer the equivalent of his railway fare as a bonus. The small men with from 5,000 to 8,000 sheep should have plenty of time to do their own classing. Last year his output was about 600 bales, valued approximately at £7,200. The responsibility for looking after the clip was divided between the overseer, the classer, the fleece-pickers and the wool-rollers. If wool was received on the Sydney market improperly classed the brokers would naturally blame the classer, though he (witness) would not hold him entirely responsible.

Witness, in answer to a further question, said he would be prepared to leave the classing to a man upon whom he had taught in a week or two.

George Henry Hebden, grazier, of Molong, said that he had had no technical instruction as a wool-classer, but his experience during 36 years of station management gave him a knowledge of the work. In 1906 he classed all the wool from his hoggets, and received a report from his brokers that there was no difference between that and the clip of previous years. In 1906 his classer averaged over £4 per week, and in 1908 a shade over £5 per week. As a practical man he did not consider technical instruction necessary for wool-classing.—The Sydney Stock and Station Journal.

Australian Noils.

Considerable interest was manifested during the last series of London sales in 62 bales of Australian noils, which were offered by Messrs. Schwartze & Co. Coming from Sydney, they were presumably combed by Messrs. F. W. Hughes, Ltd., the firm that has installed a combing plant. We expected considerable difficulty would be experienced in disposing of noils on the spot, or even exporting them to any near consuming country. We are not aware that as yet either India, China, or Japan has begun consuming noils, but no doubt they will do so eventually.

It certainly was a smart idea to send them to London for sale by auction: for large quantities of fine noils are exported by Bradford houses to the Continent, and both France and Germany being well represented at the London sales, the very firms buying noils were there on the spot to see the bulk. Every lot was carefully sampled, and there was a unanimous verdict that they were very short and very fine. Most people were somewhat surprised at the noils being so short, but this is explained by their being produced on French combing machinery. Noils produced on a Holden or a Noble combing machine are a trifle longer than those on a French combing machine; but of course the topmaker benefits by all the fiber possible going into the top. These noils were also a little seedy, but on the whole they were fairly well liked, and the prices realized were equal to what are being paid in Bradford for similar qualities and descriptions.

The fact is very remarkable that both merino and crossbred noils are the cheapest articles on the market, particularly the former; there seems to be no parity whatever between the prices of noils and fine wool. Stocks are very heavy, due to the large quantity of tops which are being produced, and nobody seems to be wanting them. This is matter for surprise, especially in view of their relative cheapness. However, there cannot be any better way for Australian firms producing tops than to send them to Coleman Street for sale, for there the whole of the trade sees them, and will buy accordingly.

The following is a list of the prices realized for the varied lots catalogued:

FWHLtd in Diamond.		d.
Queensland, 6 FF	4 bales	14½
Queensland, 6 F	3 bales	14½
New South Wales, 12 F	18 bales	14
New South Wales, 11 F	9 bales	14
New South Wales, 11 A	9 bales	13½
New South Wales, 12 A	8 bales	13½
New South Wales, 11 NF	3 bales	13
New South Wales, 11 NF	3 bales	12½
New South Wales, 12 NF	5 bales	13

Textile Mercury.

Recent Textile Patents.

BRAIDING MACHINE. 965,437. Maurice D. Brown, Yonkers, and Harold K. Beach, Hastings-upon-Hudson, N. Y.

DRYING PROOFED and Like Fabrics or Material. Apparatus for. 967,076. John Spenle, Salford, England.

DYEING MACHINE. 965,625. William A. Fowler, Salisbury, N. C.

EMBROIDERING MACHINE. 967,288. Pius Zund, Gossau, Switzerland.

KNITTING MACHINE Feeding Device. 966,707. John Rogginger, Waupun, Wis.

KNITTING MACHINE. Duplex Striping Mechanism for Circular. 965,428. William P. Young, Philadelphia, Pa.

KNITTING MACHINES. Yarn Changer for Circular. 965,351. Harry H. West, Plymouth, Pa.

KNITTING MACHINE Yarn-splicing Device. 967,019. Harry A. Houseman, Philadelphia, Pa.

KNITTING MACHINE Web Holder Device. Straight. 967,760. Paul Grosser, Markersdorf, Germany.

KNITTING MACHINE Yarn Guide Controlling Mechanism. Traverse Warp. 966,875. Gordon S. Weeper, Fultonville, N. Y.

LOOM LUG STRAP. 966,667. William H. Dismuke and Thomas C. Stewart, Phoenix, Ala.

LOOM FRICTION Let-off. 966,892. Henri Duval, Montreal, Canada.

LOOM FILLING Feeder. Filling Replenishing. 966,615. Edward S. Stimpson, Hopedale, Mass.

LOOM. Automatia Filling Replenishing. 967,282. William R. Widdup, Spartanburg, S. C.

LOOM SHUTTLE. 967,606. Henry M. Brown, Providence, R. I.

LOOM SHEDDING Mechanism. 966,439. Albert A. Gordon, Jr., Worcester, Mass.

LOOM SHUTTLE. 966,487. Henry A. Titus, Providence, R. I.

LOOM STOPPING Mechanism. 968,326. Orren A. Sawyer, Lowell, Mass.

LOOM. 966,402. Eppa H. Ryon, Worcester, Mass.

LOOM LET-OFF Mechanism. Narrow Ware. 968,367. George W. Kuenneth, Paterson, N. J.

LOOM SHUTTLE. 968,326. William F. Cavanagh, Providence, R. I.

LOOM HARNESS Stop Motion. 966,443. Lemuel H. Holcomb, Knoxville, Tenn.

NECKTIE. 967,792. Harry T. Loomis, New York.

SPINNING DEVICE. 967,756. Willis B. Gilmore, Idaho Springs, Colo.

SPINNING MACHINE. Ring. 965,306. Albert G. Koechlin, Steinen, Germany.

SPINNING MACHINE. 967,333. Frederick S. Culver and Leon J. Morin, Taunton, Mass.

SPINDLE and Bearing for Slubbing, Spinning, Twisting, or Like Machines. 966,184. William R. Erskine, Lindale, Ga.

WEAVING. Harness for Cross. 966,668. William B. Dixon, Philadelphia, Pa.

Recent Textile Trademarks Registered.

"Anchor." Jute bagging for baling cotton. The American Mfg. Co., New York.

"Saltex." Velvet and plush piece goods. The Salt's Textile Mfg. Co., Bridgeport, Conn.

"Chantecler." Boys' and children's coats and pants. Mendelson Herbert Co., New York.

"Gotham." Men's outer shirts and collars.

"Red Goose." Boys' and girls' stockings. Central Knitting Co., St. Louis, Mo.

"Mercer." Spool cotton, sewing cotton, etc. The American Thread Co., Jersey City, N. J.

"Merlin." Spool cotton, sewing thread, etc. The American Thread Co., Jersey City, N. J.

"Merchantville." Cotton piece goods. Boott Mills, Lowell, Mass.

"Signal." Cotton piece goods. Boott Mills, Lowell, Mass.

"Premier." Cotton piece goods. Kraft & Cutter, New York.

"Indita." Piece goods of woolen, worsted, silk, etc. George J. Geer, New York.

"P-Q-A." Knitted undershirts, drawers, etc. The Piqua Hosiery Co., Piqua, O.

"Linyarnette." Cotton piece goods. Charles Kohlman & Co., New York.

"Justo." Petticoats and underskirts, both knitted and textile. The Dielhenn Mfg. Co., Massillon, Ohio.

"Creme O." Cotton sateens. Warner-Godfrey Co., New York.

"Thrift." Cotton piece goods. Warner-Godfrey Co., New York.

"Sealette." Velvets and plushes. The Salt's Textile Mfg. Co., Bridgeport, Conn.

"Hesper." Dress goods made of linen, silk and cotton mixtures. L. Hess & Co., New York.

"Monarch." Silk, cotton, mercerized sewing threads. Gudebrod Bros. Co., New York.

"Monroe Mills." Cotton Piece Goods. Boott Mills, Lowell, Mass.

"Heirloom." Linen and Hemp Piece Goods. John Wilsons' Successors, London, Eng.

"Baltimore Bargain House." Linen Piece Goods, Bed Spreads, etc. Baltimore Bargain House, Baltimore, Md.

"Ashland." Cotton Duck. Ashland Mfg. Co., Millsdale, Md.

"Baroness." Broad Silk. Rogers & Thompson, West New York, N. J.

Utah, Beaver. The plant operated by the Beaver Woolen Mfg. & Milling Co. several years ago will probably be started up in the near future to make blankets, flannels and yarns.

*Virginia, Norfolk. Arnold Walton advises us that he has nothing definite in view at present and has only been trying a few samples of toweling.

C. E. RILEY COMPANY

65 Franklin Street, .. BOSTON, MASS.

COTTON AND COTTON GOODS YARNS

DIRECT IMPORTERS OF EGYPTIAN COTTON

COTTON WOOLEN WORSTED MACHINERY

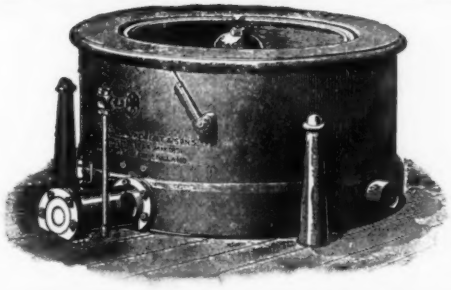
Thomas Broadbent & Sons,

Huddersfield, Eng.

PATENT DIRECT STEAM DRIVEN

HYDRO-EXTRACTORS

OVER 3500 IN USE. ALSO ELECTRICALLY DRIVEN

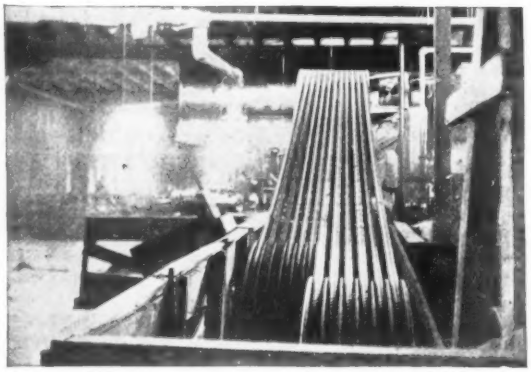


SUSPENDED ON LINKS. REQUIRING NO EXPENSIVE FOUNDATIONS

C. E. RILEY COMPANY, Sole Agents 65 Franklin St., Boston, Mass.

Machines Kept in Stock in Boston

Cling-Surface is Good For Ropes Too



Cling-Surface penetrates the rope to the very core and surrounds each fibre with a preserving lubricant. Not only does Cling-Surface fill up the uneven outside surfaces to make the cable smooth, round and capable of the most efficient pulley contact, but it renders every part of the rope pliable and impervious to moisture.

The absence of chafing of the inner fibres in a rope treated with Cling-Surface materially increases the life of the rope. Slip is prevented, with less weight on the tightener, and this alone is a relief to engine and drive which makes Cling-Surface more than pay for itself in power saved.

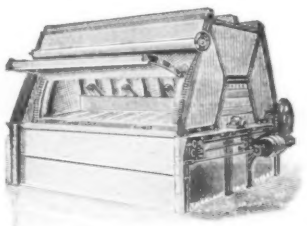
If one trial of Cling-Surface does not convince you that its use results in real benefit, *you can have your money back*. ***Write for Literature.***

Carried in stock in the Principal Cities

Cling-Surface Co.

1051 Niagara Street Buffalo, N. Y.

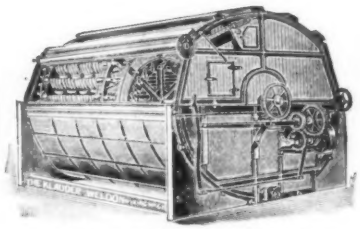
NEW YORK BOSTON CHICAGO MEMPHIS ATLANTA TORONTO, ETC.



RAW WOOL AND COTTON MACHINE.

MACHINES sold on 2 MONTHS' TRIAL

YOU TAKE NO RISK

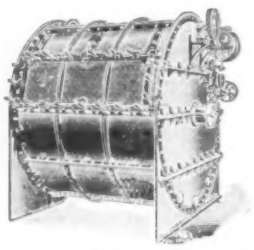


SKEIN AND SLUBBING MACHINE.

THE KLAUDER-WELDON DYEING MACHINE COMPANY

HUDDERSFIELD, ENGLAND. *AMSTERDAM, N. Y.*

Machines for Dyeing, Bleaching and Scouring Woolen, Worsted, Cotton and Silk Skeins—Slubbing—Raw Cotton and Wool, Waste, Rags, Shoddy, Hosiery, Underwear, Hats, Caps, Knit Cloth, Tapes, etc.

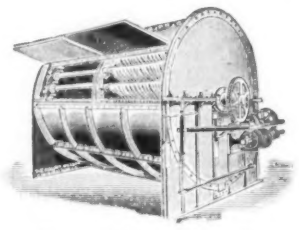


SULPHUR HOSIERY MACHINE.

Special Machines for Sulphur Colors

WILL EARN THEIR COST IN LABOR ALONE IN FROM 6 TO 12 MONTHS ACCORDING TO CAPACITY

Southern Agent, O. A. ROBBINS, Charlotte, N. C.



SULPHUR SKEIN MACHINE.

Buyers' Index

The addresses of builders of mill machinery and dealers in mill supplies, whose names appear in the following classified index, may be found upon referring to their advertisements. The Alphabetical Index to advertisers follows this classified list. Buyers who are unable to find in the classfication here given such machinery or supplies as they desire, are invited to communicate with the publishers, who can, in all probability, refer them to proper sources. Advertisers whose names do not appear under desired headings will please notify the publishers. Such omissions are accidental, not intentional.

Accountants.
American Cost Accountant Co.

Air Moistening System.
American Moistening Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.
Fries, John W.
Griscom-Spencer Co.
Parks, G. M., Co.
Schutte & Koerting Co.

Architects and Mill Engineers.
Cramer, Stuart W.
Dean, F. W.
Ferguson, John W.
Main, Chas. T.

Asbestos Products.
Johns-Manville Co., H. W.

Asphalt Tanks.
Scaife, W. B., & Sons.

Automatic Feeds for Cotton and Wool.
Harwood, Geo. S., & Son.
Kitson Machine Co.
Leigh, Evan A.
Philadelphia Drying Machinery Co
Philadelphia Textile Machinery Co
Schofield, Wm., Co.
Woonsocket Machine & Press Co.

Bale Ties.
Acme Steel Goods Co.

Baling Presses.
Boomer & Boschert Press Co.
Hydraulic Press Mfg. Co.
Logemann Bros. Co.
Philadelphia Drying Mchy. Co.
Minnich Machine Works.

Bandings.
—See under Yarns.

Baskets.
Lane, W. T., & Bro.

Beams (Steel).
Mossberg, Frank, Co.

Belting.
Chicago Belting Co.
Gandy Belting Co.
N. Y. Leather Belting Co.
Rhoades, J. E., & Sons.
Shultz Belting Co.
—See also Mill Supplies.

Belt Dressing.
Cling Surface Mfg. Co.
Dixon, Jos., Crucible Co.
Shultz Belting Co.

Belt Lacing Machines.
Birdsboro Steel Fdry. & Machine Co

Belt Shifters.
Mossberg Wrench Co.

Bindings.
—See Tapes and Braids.

Bleaching Kiers.
Arlington Mch. Wks.
Birch Bros. (Albert Birch, prop.)
Philadelphia Drying Machinery Co.
Textile Finishing Machinery Co.

Bleaching Materials.
Bosson & Lane.
Danker & Marston.
Roessler & Hasslacher Chemical Co.
Seydel Mfg. Co., The.

Blowers and Blower Systems.
Dean Bros. Steam Pump Works.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Bobbins and Spool Machinery.
Defiance Machine Works.

Bobbins, Spools, Shuttles, Etc.
American Supply Co
American Textile Specialty Mchy. Co.
Leigh, Evan A.
Lestershire Spool & Bobbin Co.
Mossberg, Frank, Co.
Speed & Stephenson.
Tebbets, E. L., & Co.
Wilson & Co.

Bobbin Winders.
Altemus, J. K.
Lever, Oswald, Co.
Universal Winding Co.

Boilers.
—See Steam Boilers.

Boxes, Cloth Boards, Etc.
Pearson, J. T.

Box Strapping.
Acme Steel Goods Co.

Braiding Machinery.
New England Butt Co.
Textile Machine Works.

Braids.
—See Tapes, Braids and Edgings.

Brass Hinges.
Root, C. J., Co.

Bridges.
Scaife, W. B., & Sons.

Brushers.
—See Napping Machines.

Brushes.
Felton, S. A., & Son Co.
Mason Brush Works.
Parks & Woolson Machine Co.

Burr Pickers.
Curtis & Marble Machine Co.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.

Calico Printers' Machinery and Supplies.
Arlington Mch. Wks.
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.)
Taunton-New Bedford Copper Co.
Textile Finishing Mchy. Co.
—See also Dyeing, Bleaching, Machinery, etc.

Canvas Baskets.
Lane, W. T., & Bro.

Cap Spindles.
American Textile Specialty Mchy. Co.
Hall, F. A., & P.
Speed & Stephenson.

Caps.
Calder Machine Works.

Carbonizing Machinery.
Birch Bros., Somerville Machine Wks.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Schuchardt & Schutte.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.)
Tolhurst Machine Works.

Card Clothing.
Ashworth Bros.
Howard Bros. Mfg. Co.
Howard & Bullough American Mach. Co.
Leigh, Evan A.
Richards, Atkinson & Haserick.
Riley, C. E., Company
Schwartz, L. H. A., & Co.
Speed & Stephenson.

Carded Cotton.
Blaisdell, S., Jr., Company.
Wonalancet Co.

Card Feeds.
—See Automatic Feeds.

Card Grinding Machinery.
Dronsfield Bros.
Entwistle, T. C., Co.
Leigh, Evan A.
Riley, C. E., Company.
Smith & Furbush Machine Co.
Richards, Atkinson & Haserick.

Carpet Machinery.
Altemus, Jacob K.
Curtis & Marble Machine Co.
Philadelphia Textile Machinery Co.
Smith & Furbush Machine Co.

Castings.
Farrel Foundry and Machine Co.
Schofield, Wm., Co.

Cell Driers.
Cell Drier Machine Co.

Cement Pans.
Scaife, W. B., & Sons.

Chain Belts.
Link-Belt Co.

Chemicals.
Harding, Fancourt & Scull.
Roessler & Hasslacher Chemical Co.

Chemists.
Chemico-Legal Bureau.
Little, Arthur D., Inc.
McKenna, Dr. Chas. F.

Cling Surface.
Cling Surface Mfg. Co.

Clocks.
Pettes & Randall Co.

Cloth Boards.
Chaffee Bros.
Pearson, J. T.
Richardson Brothers.

Cloth Expanders.
American Finishing Machinery Co.
Arlington Mch. Wks.
Birch Bros. Somerville Mach. Wks. (Albert Birch, prop.)
Leyland, Thomas, & Co.
Somerville Mach. Wks. (Albert Birch, prop.)
Textile Finishing Machinery Co.

Clutches.
American Tool & Machine Co.
Hunter, James, Machine Co.
Mossberg Wrench Co.

Coal.
Darrow Mann Co.

Alphabetical Advertising Index, with page numbers, follows this list.

Coal Analysis.
Little, A. D., Inc

Combs (Wool and Cotton).
Hood, R. H., Company.
Leigh, Evan A.
Philadelphia Textile Machinery Co.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Speed & Stephenson.

Condensers.
Dean Bros. Steam Pump Works.

Conveying Systems.
Sturtevant, B. F., Co.

Cop Machinery.
Eppiers, John, Mach. Works

Cop Tubes.
American Textile Specialty Mchy. Co.
Hall, F. A., & P.
——See Paper Tubes.
Pairpoint Corporation.

Copper Print Rollers.
Taunton-New Bedford Copper Co.

Coppersmiths.
Badger, E. B., & Sons Co.

Copper Work for Dyers.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile Finishing Machinery Co.

Corrugated Iron and Steel.
Scaife, W. B., & Sons.

Cotton.
Blaisdell, S., Jr., Co.
Charles, W. B.
Riley, C. E., Company.
Schwartz, L. H. A., & Co.
Wonalancet Co.

Cotton Machinery.
Altemus, Jacob K.
American Textile Specialty Mchy. Co.
Ashworth Bros.
Barber-Colman Co.
Butterworth, H. W., & Sons Co.
Cramer, Stuart W.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Dixon Lubricating Saddle Co.
Draper Company.
Easton-Burnham Co.
Elliott & Hall.
Richards, Atkinson & Haserick.
Entwistle, T. C., Co.
Firth, William, Co.
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Kilburn, Lincoln & Co.
Kitson Machine Co.
Klauder-Weldon Dyeing Machine Co.
Leigh, Evan A.
Lowell Machine Shop.
Mason Machine Works.
Metallic Drawing Roll Co., The.
Mossberg Wrench Co.
Palmer, I. E., Co.
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Philadelphia Textile Machinery Co.
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Textile Machinery Co.
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Wildman Mfg. Co.
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Zurn, O. F., Co.

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Schofield, Edwin F.

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Mossberg Wrench Co.

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Root, C. J., & Co.
Schuhardt & Schutte.

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Dixon, Jos., Crucible Co.
Lowell Crayon Co.

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Carbolineum Wood Preserving Co.

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Maimin, H.

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Power Specialty Co.

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Seydel Mfg. Co., The.

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Kilburn, Lincoln & Co.
Stafford Co., The.

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Nuttall, George.

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Metallic Drawing Roll Co., The.
Speed & Stephenson.

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Arlington Mch. Wks.
Birch, Albert, Somerville Mach. Wks.
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
Cell Drier Machine Co.
Firsching, J. A.
Hunter, Jas., Machine Co.
Kenyon, D. R., & Son.
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Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.)
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Textile Finishing Machinery Co.
Tolhurst Machine Works.

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Bull, William C.
Pearson, J. T.
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Pawtucket Dyeing & Bleaching Co.
Peerless Co.
Solway Dyeing & Textile Co.
Standard Bleachery Co.
Utica Willowvale Bleaching Co.
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Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
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Consolidated H. S. and L. M. Co.
Curtis & Marble Machine Co.
Delahunty Dyeing Mach. Co.
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Gessner, David.
Heathcote, John, & Son.
Hopkins Machine Works.
Hunter, James, Machine Co.
Hydraulic Press Mfg. Co.
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Klipstein, A., & Co.
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Leyland, Thos., & Co.
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Rodney Hunt Mach. Co.
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Bailey, Frank.
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—See Dyeing, Drying, Bleaching and Finishing.

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Tolhurst Machine Works.

Hygrodeik.
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Jacquard Cards.
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Cheney Bros.
Friedberger-Aaron Mfg. Co.
Krout & Fite Mfg. Co.
Weimar Bros.

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Union Special Machine Co.

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Stafford & Holt.

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Ainsley Knitting Machine Co.
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Climax Machine Co.
Cooper, Chas.
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Lamb Knitting Mach. Mfg. Co.
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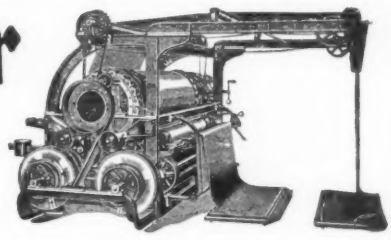
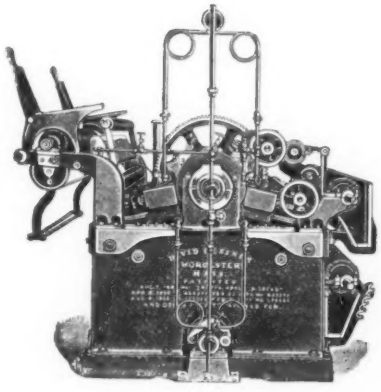
Worcester, Mass.





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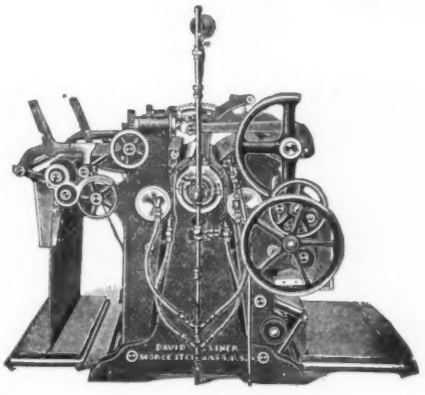

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Walworth Manufacturing Co.

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Economy Engineering Co.

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Payne, G. W., & Co.
Universal Winding Co.

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Schofield, Wm., Co.
Smith & Furbush Machine Co.

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Arguto Oilless Bearing Co.

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New Process Raw Hide Co.

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Nuttall, George.
Walder, J.

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Walworth Mfg. Co.

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Walworth Mfg. Co.

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Shaw, Victor, Ring Traveler Co.
U. S. Ring Traveler Co.

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Barrett Mfg. Co.
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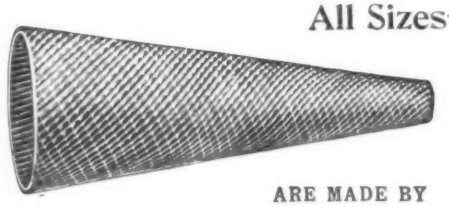

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All Phones

Publisher's Page

Important to Magazine and Trade Paper Subscribers and Advertisers.

The postal appropriation bill recently passed by Congress contained as a "rider" a clause which has an important bearing on magazine subscriptions.

The new law provides that when copies of any publication are undeliverable at the address thereon, the postmaster at the office of destination shall promptly notify the publisher of the fact, giving the reason for non-delivery, and if further copies are received after five weeks of such notice has been given the publishers, they must be returned separately to the publisher and postage at the third-class rate of two cents an ounce must be collected.

In the case of the Textile World Record, it means that if a subscriber fails to notify the publisher of his change of address, the copy will be returned to the publisher at a cost of twelve cents' postage. In the course of a month there are many changes which amount in the aggregate to quite an item, and we would therefore ask subscribers to notify us promptly of any change of address so as to avoid delay in receiving their copy and also to avoid causing us this unnecessary expense.

There is one good feature about this law. Some publishers do not follow the rule of the Textile World Record, but they continue to send papers whether they are renewed or not, long after the time paid for has expired, and frequently employ a collection agency to collect the bills. Our subscription men are constantly running across cases of that kind. It's all wrong.

This new law gives a simple remedy to those who have papers forced on them or sent against their wishes. All they have to do now is to refuse to accept every copy of the paper and notify the postmaster to that effect. He will be compelled by law to return it to the publisher at such a high rate of postage that no publisher would continue to send them for the purpose of inflating his circulation. He couldn't afford to.

It's a good thing for the post-office department, too, for it will rid the mails of thousands of copies of magazines and papers, sent our promiscuously to people who have never ordered them, or whose subscriptions have expired. There is too much of that waste circulation which does nobody any good, and is only intended to deceive the advertiser.

We hope the new law will do away with it.

Sentiment in Business.

Many men hold that sentiment in business should be kept as far apart as the discovered and the undiscovered poles. Perhaps this is right, but the publishers of the Textile World Record find great satisfaction in feeling that they are trying to give both subscribers and advertisers more than full value for their money. They are very frequently told that they succeed in doing so.

To its subscribers the Textile World Record gives first, quality and then quantity—plenty of it—live reading matter on current matters pertaining to textiles, textile machinery, processes, methods, equipment, supplies, mill news, etc.

To its advertisers the Textile World Record gives first, quality of circulation and then quantity—and that a definite minimum quantity (6,000)—of the kind most valuable to the concerns behind the kind of advertising that is most earnestly solicited—for only that is solicited which is considered of real service to its subscribers.

The Textile World Record's text and advertising pages are inter-related yet wholly independent—in the former its editor and special writers discuss various phases of the textile industry, while in the latter, about four hundred advertisers tell the subscribers just how they can help them (with machinery, equipment or supplies) to advance the industry in which both are vitally interested.

[Of this issue 6,250 copies are printed—and all of them are needed.]

Improvement in Make-Up.

Hereafter the pages containing the Buyers' Index and Alphabetical Index to Advertisements will be printed on tinted paper, in order that they may more readily be distinguished for quick reference.

ATTENTION.

HOSIERY
SWEATER
UNDERWEAR
FANCY KNIT GOODS } Manufacturers

—ALSO—

YARN
SUPPLY
MACHINERY
AND OTHER } Manufacturers

who cater to the patronage of the knitters.

It is very important that you attend the Annual Convention and Exhibition of the

National Association of Hosiery and Underwear Manufacturers

TO BE HELD IN

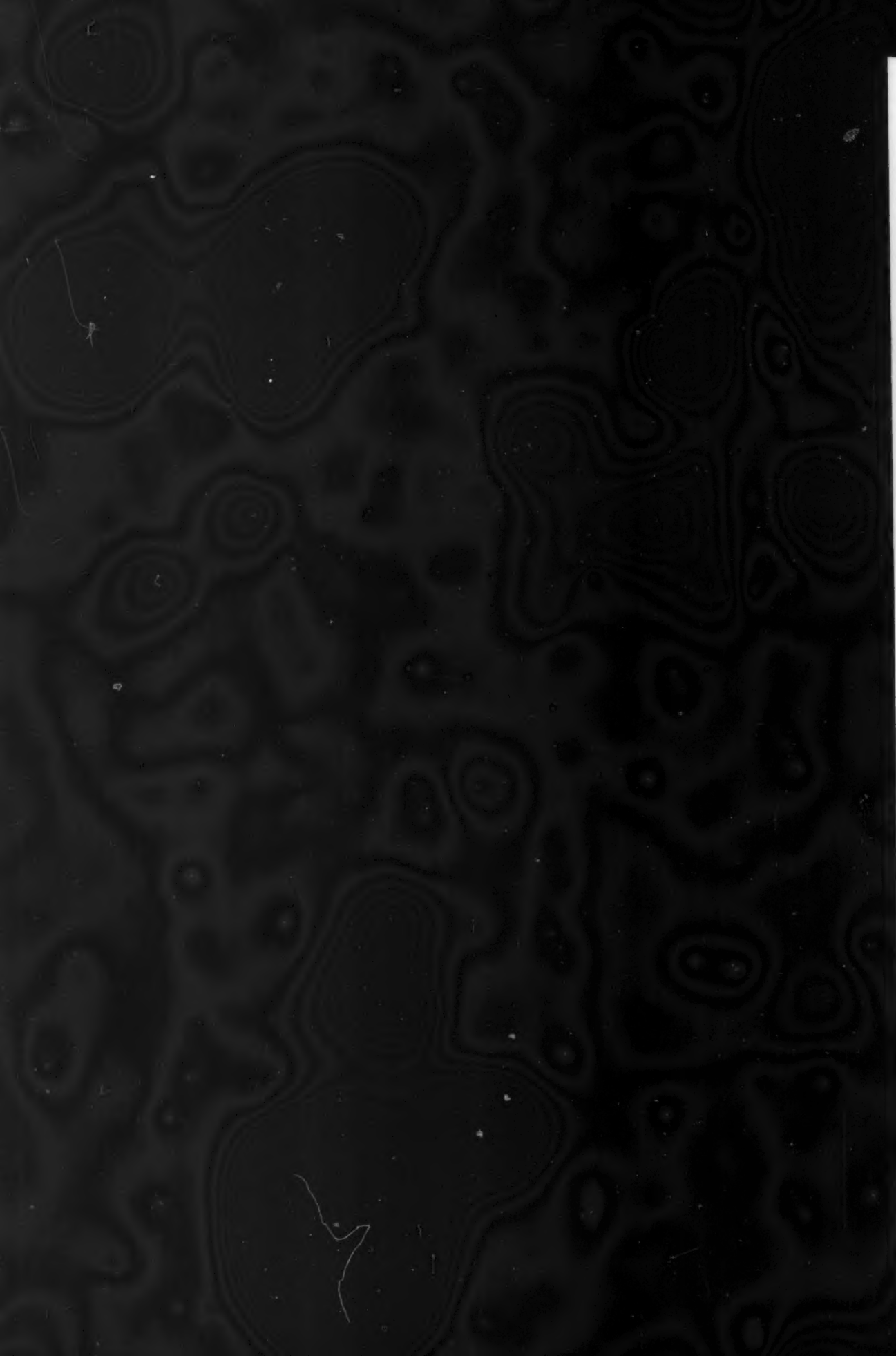
Philadelphia, Pa., on May 23, 24, 25, 26 and 27, 1910.

KNITTERS — and there will be at least 500 of them from all parts of the United States — will be greatly benefitted by the attendance at the Convention and Exhibition.

YARN, SUPPLY, MACHINERY and other **MANUFACTURERS** or interests soliciting the knitters' patronage, will reap a great harvest by taking advantages of the opportunities offered by the Exhibition, to display their goods and meet under the most favorable auspices the large number of knitters that will flock to the Exhibition.

Don't postpone action on this important proposition. Write at once for full particulars to the

National Association of Hosiery and Underwear Manufacturers,
683-5 Drexel Building, Philadelphia, Pa.



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Textile mills and other industrial plants, water power and steam power development, examination and reports on plants with reference to their value, reorganization or development. 4-5

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Man (32) offers services as chemist or buyer who can bring costs to a minimum and modernize methods. Can support claims with exceptional references as to English factory and college reference.

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Geo. Nuttall,

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Agent for the Weston Hydro Extractor.

Wants, For Sale, Etc.

Rates 15 cents a line per issue when replies are sent in care of TEXTILE WORLD RECORD to be forwarded. If replies go direct to advertiser the rate is 10 cents per line per issue. Count seven words to a line and include side head and address. Cash must accompany the order for these ads. If such ads. are "displayed" the rate is $2.00 per inch single column each time. The publishers reserve the right to reject any advertisement.

Wanted: One 20 or 32 Spindle Payne Spooler, one 40 Spindle Foster Cone Winder, Second-hand, in good condition. Niagara Thread Company, 120 South American St., Philadelphia, Pa.

Universal Winder Wanted.

A small second-hand Universal Winder, 6 in. traverse. Address, Winder, Textile World Record, Boston, Mass.

Featherstitch account wanted and other narrow woven fabrics in connection with Import Trimmings.

Reply Trimming, Textile World Record, Boston, Mass.

For Sale

500 Colvin 34" looms with Northrop attachments.
12 Pickers (single and two beaters) 40" laps.
34 Deliveries Drawing Frames (metallic rolls.)
Lot of Stretchers for wet and dry bleachery work.
Lot of shafting, pulleys and hangers.

Prices very low to move quick.

Fulton Bag & Cotton Mills, Atlanta, Ga.

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AMERICAN MACHINERY EXCHANGE
1857 MIDDLESEX ST., LOWELL, MASS.

6 sets of D. & F. Cards, 60" face, 48" diameter, with D. & F. heavy breast with Bramwell and Apperly feeds.
2 sets of D. & F. Cards, first breakers 48" face, 42" diameter, second breaker and finisher 48" x 48", with D. & F. heavy breast, Bramwell and Apperly feeds.
2 sets of Cleveland Cards, 48" x 48", with Bramwell and Apperly Feeds.
5 sets of English Cards, 60" face, 48" diameter.
13 Taggart Spoolers, 32" drum with compressor.
20 D. & F. Spoolers, drum 32" and 45".
10 Cleveland Spoolers, drum 30" and 32½".
10 Bramwell Feeds, 48"

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in the hank—and can undertake to do about 900-1000 lbs. per day? Highest lustre to be guaranteed. K. S., Textile World Record, Boston, Mass.

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1 Knitting plant complete, consisting of the following machinery:

6 Plain Acme Knitters, 3¾ inch diameter, 200 needle, 48 Gauge, 1 Cyclone Dryer, 150 dozen capacity, 1 Hand Steam Press, 1 Industrial Overseaming Welter, 1 J. W. Hepworth & Co.'s Looper, 18 Points, 1 Fan, 20 dozen Ladies' Hosiery Boards, 1 dozen Canvas Shipping Bags, 1 8 H. P. Farquhar Locomotive Boiler, 1 5 H. P. Farquhar Engine, Shafting, Belting, Tables, etc.

The above machinery has only been in use about four months and is in fine condition.

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Prompt delivery in any quantity. All consignments made direct from Adirondack Woods. Orders for winter delivery especially solicited.

Geo. E. Hartwell, Northville, N.Y.

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Overseer or Superintendent of Cotton Weaving

seeks new position. Have had experience on all classes of Plain and Fancy Goods and familiar with all popular makes of looms. Age 43 years. New England or Middle States preferred. Address, F. W. Textile World Record, 119 South 4th St., Phila., Pa.

Philadelphia Agent Wanted.

A manufacturer of supplies for weaving mills desires to secure a first-class Philadelphia agent. Prefers established mill supply house with good trade—a concern that is wide awake and is not content to let business come to it, but goes after it. Have already a number of good Philadelphia accounts which would be turned over to the agent and can be materially increased, as well as many new accounts added. Might possibly consider arrangement with some energetic young man with experience in this line to take the exclusive agency and back him financially. Address in strict confidence with particulars.

F. L. N., care Textile World Record,
Boston, Mass.

POSITIONS OPEN.

For a first-class boss dyer, in an underwear mill, who understands bleaching; boss knitters on underwear and hosiery; sewing machine fixers; second hands in wool carding and spinning departments; second hand in cotton carding and spinning department; weave room cloth examiners and finish goods examiners. For further information address, Registry Dept., TEXTILE WORLD RECORD, 144 Congress St., Boston, Mass.

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BY FRED BRADBURY

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A handsome volume, bound in dark green cloth, gold lettering; over 300 pages; 256 illustrations and 3 colored plates.

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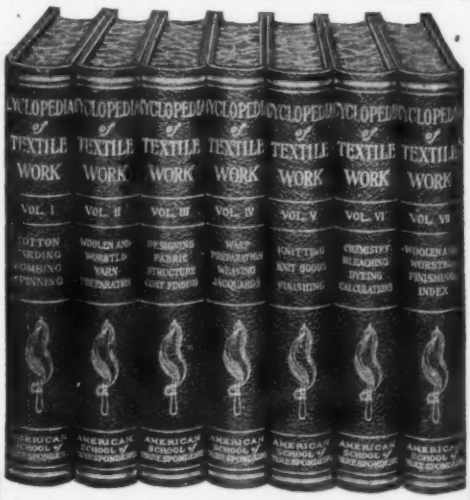
A reliable book on carpet and rug manufacture that will strongly appeal to the manufacturer and designer. It is written in an easy style, combining text and illustrations in a manner that gives the perfect technical book.

The chapters are: Designing, Color, Brussels Carpets, Wilton Carpets, Tapestry Carpets, Axminster Carpets, Chenille Axminster Carpets, Kidderminster and Scotch or Ingrain Carpets.

LORD & NAGLE CO. Publishers, Boston, Mass.



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Cyclopedia of Textile Work

The Cyclopedia is handsomely bound in half morocco leather and contains 2,656 pages, size 7x10 inches. Realizing that the text alone would be of little value to the practical textile worker we have included in this work over 2,000 diagrams, designs drawings, tables, formulas, etc., illustrating every section of the books.

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Cotton Fibre—Picking—Carding—Combing—Drawing—Spinning—Wool-Washing—Woolen Carding—Worsted Carding—Woolen Spinning—Worsted Spinning—Designs—Sateens—Velvet Jacquard and Leno Cotton—Woolen and Worsted Warp Preparation—Plain Weaving—Fancy Looms—General Loom Fixing—Spring Needle Knitting—Textile Chemistry—Textile Coloring—Mordants—Dyestuffs—Analysis of Fabrics—Finishing—Processes of Finishing Standard Fabrics.

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a live up-to-the-minute, $1.50 monthly, crowded with special articles on the most recent applications of the principles covered in the Cyclopedia; splendidly illustrated with scores of special photographs.

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Please send set Cyclopedia of Textile Work for 5 days' free examination; also Technical World for 1 year. I will send $2.00 within 5 days and $2.00 a month until I have paid $19.80; or notify you and hold the books subject to your order. Title not to pass until fully paid.

Name .....

Address .....

Occupation .....

Employer .....

(Tex. World Rec. 4-10)

Situations Wanted.

The following advertisements are a portion of those of superintendents and overseers, of whom full particulars are on file at this office. Manufactu ers who may be in need of such men may address them in care of Textile World Record, Boston or state their requirements directly, and the addresses of suitable men will be furnished without charge.

Mr. C. T. Donievy, a practical mill overseer and superintendent, who has a wide acquaintance with mill men, gives special attention to this department. He would be pleased to hear from any of his friends who may be interested. Address Textile World Record, 144 Congress St., Boston, Mass.

COTTON SUPERINTENDENTS.

Assistant Superintendent in cotton mill, or secretary to manager or agent; worked on cotton dress goods, lawns, shirtings and fancies; familiar with all types of machinery covering processes from raw yarn to finished goods, yarns running from 11s to 80s; 26 years of age, married; good reference; will not go to Pa., N. Y., N. J., West, South or Canada.
4982, Textile World Record, Boston, Mass.

Manager or Superintendent in cotton mill; or would consider position with large woolen or worsted firm; worked on damasks, turkish, crash and fancy towels, crochet, satin and marseilles bedspreads in cotton work; woolen and worsted men's wear, dress goods, upholstery, carpets and rugs; familiar with all makes of machinery; 47 years of age, married; good reference.
4948, Textile World Record, Boston, Mass.

Cotton Supt. or asst. supt.; worked on print cloths, 28 and 38 1/2 inch, twills, flannels, ginghams, sheetings and seersuckers; familiar with the Kitson pickers, Mason cards and drawing, Woonsocket and Biddeford, Saco & Pettee speeders, Whitin and Biddeford spinning, Draper, Lowell, Stafford and Crompton looms; 31 years of age, married; good reference.
4932, Textile World Record, Boston, Mass.

Cotton Superintendent or assistant; would take cotton buying job for large mill; worked on all classes of goods; familiar with all makes of machinery; 24 years of age; will not go West or to Canada; good reference.
4830, Textile World Record, Boston, Mass.

Agent, Assistant Treasurer or superintendent of a cotton mill; worked on ginghams, blankets, flannelettes, sheetings, twills, silk and cotton goods, also carding, combing and spinning sale yarns; familiar with all makes of machinery; 41 years of age, married; good reference.
4829, Textile World Record, Boston, Mass.

WOOLEN WEAVERS.

Boss Weaver or dresser or both; worked on flannels, cassimeres, suitings and cloakings; familiar with the D. & F. spooler and dresser, narrow Empire loom, Crompton & Knowles looms and Strafford automatic looms; 49 years of age, married; will not go to N. Y., West, South or Canada; good reference.
4985, Textile World Record, Boston, Mass.

Boss Weaver in woolen mill; worked on fancy and cotton worsteds and woolens; familiar with the Crompton, Knowles, Thayer looms and has had experience on the Knowles latest box motion; 30 years of age; will not go to Pa., N. Y., N. J., West, South or Canada; good reference.
4955, Textile World Record, Boston, Mass.

Overseer of woolen weaving and warping; worked on all classes of woolen and worsted goods; familiar with Crompton and Knowles looms; 43 years of age, married; good reference.
4817, Textile World Record, Boston, Mass.

Overseer of Woolen Weaving or boss weaver and designer combined; worked on all classes of woolen and worsted goods; familiar with all kinds of machinery; 49 years of age, married; will not go to Canada.
4819, Textile World Record, Boston, Mass.

WOOLEN SUPERINTENDENTS.

Superintendent or assistant in worsted or woolen mill, or overseer of weaving; worked on fancy worsteds; familiar with the Crompton & Knowles looms; 52 years of age, married; will not go to Pa., N. Y., N. J., West, South or Canada; good reference.
4981, Textile World Record, Boston, Mass.

Superintendent woolen or worsted mill or designer; has worked on all classes of goods; familiar with all makes of machinery; 40 years of age, married; will go anywhere for a good position; good reference.
4984, Textile World Record, Boston, Mass.

Superintendent or assistant superintendent in woolen mill; worked on broadcloths, fine casket and carriage cloths, all high steam finish goods, fine and coarse fancy worsteds, fancy piece dyed men's wear worsteds; familiar with all American makes of machinery from wool room to case; 39 years of age, married; will not go West, South or Canada; good reference.
4949, Textile World Record, Boston, Mass.

Superintendent or superintendent and designer in woolen mill; worked on beavers, kerseys, cheviots, coverts, resist and cross dyes, in worsteds, both high and low stock and rain cloths; familiar with all makes of machinery; 34 years of age, married; good reference; will not go South.
4971 Textile World Record Boston, Mass.

Woolen Superintendent; worked on men's all wool cassimeres, meltons, fancy back overcoatings, also plain dress goods, all wool; has made goods from the lowest to the best grades of stock and mixes; 34 years of age, married; good reference.
4972, Textile World Record, Boston, Mass.

Superintendent of woolen mill; worked on broadcloths, woolens and worsteds, cotton worsteds, unions and woolen men's wear; 41 years of age; good reference.
4960, Textile World Record, Boston, Mass.

COTTON WEAVERS.

Boss Weaver in narrow elastic or non elastic webbing mill; worked on elastic webs; familiar with all makes of machinery; 34 years of age, married; good reference.
4946, Textile World Record, Boston, Mass.

Overseer of Weaving, or weaving and designing; worked on all lines of fine cotton goods, white and colored, plains, sateens, fancies, lenos, lappets, cross weaves, handkerchiefs, velveteens, towels, bed spreads, etc.; familiar with all up to date weaving appliances; will not go West, South or Canada; has had 24 years of experience; 39 years of age, married; good reference. 4724, Textile World Record, Boston, Mass.

Second Hand of Weaving or designing in cotton mill; worked on all kinds of cotton goods; familiar with all kinds of American weaving machinery; 33 years of age, married; good reference. 4327, Textile World Record, Boston, Mass.

A Young Man desires position in cotton weave room to become eventually an overseer; 28 years of age; has had a textile school education and is good at designing and calculating; will go anywhere for a position and can take a position immediately; German. 4164, Textile World Record, Boston, Mass.

COTTON FINISHERS.

Superintendent Designer, or overseer of weaving or dressing; worked on all classes of goods except woolen cloakings; 29 years of age; good reference.
4968, Textile World Record, Boston, Mass.

Boss Weaver, assistant designer, or designer in cotton mill; worked on jacquards, lenos, spot weaves, handkerchiefs, lappets, all plain goods and in fact almost all classes of goods; familiar with the Whitin, Draper, Colvin, Crompton & Knowles, Kilburn and Northrop looms; 25 years of age, married; good reference.
4969, Textile World Record, Boston, Mass.

Cotton Finisher; worked on white goods, ginghams, chambrays, fancy dress goods, outing and canton flannels, blankets, in fact all classes of goods; familiar with all kinds of machinery usually used in American cotton finishing rooms; good reference.
4963, Textile World Record, Boston, Mass.

WOOLEN FINISHERS.

Boss Finisher or Dyer in woolen mill; worked on fancy worsteds, dress goods, piece dyes, raw stock, yarn, etc., both cotton and wool; 50 years of age, married; good reference.
4978, Textile World Record, Boston, Mass.

Boss Finisher in woolen mill; worked on all classes of goods; familiar with all makes of machinery; 38 years of age, married; will not go to Pa., N. J., South or Canada; good reference.
4962, Textile World Record, Boston, Mass.

Overseer of Woolen Finishing; worked on cotton and woolen worsteds, satinets and some woolens; familiar with all makes of finishing machinery; will not go to Pa., South or Canada; 25 years of age; good reference.
4953, Textile World Record, Boston, Mass.

Second Hand in woolen finishing room; worked on woolen and worsted broadcloths, kerseys, granite, billiard and covert cloths, all kinds of face finished goods and some chinchillas; familiar with Rodney Hunt, James Hunter, Parks & Woolson, Curtis & Marble and other machines; 25 years of age; will go to Mass., R. I., Conn., Me., N. H. and Vt.
4954, Textile World Reeord, Boston, Mass.

WOOLEN CARDERS.

Carder, or carder and spinner in woolen mill; worked on all classes of goods; familiar with D. & F., Cleveland, Lombard cards and D. & F. mules; 50 years of age, married; will not go to Mass., Conn., Me., N. H. or Vt.; good reference.
4983, Textile World Record, Boston, Mass.

Boss Carder for woolen mills; worked on all classes of woolen goods; familiar with all makes of machinery; 50 years of age, married; will not go West, or Canada; good reference.
4977, Textile World Record, Boston, Mass.

Boss Carding, or carding and spinning in woolen mill; worked on all classes of goods; familiar with all makes of cards, condensers, mules, jacks, etc.; 43 years of age, married; will not go to Me., N. H., Vt., Pa., South or Canada; would prefer West; good reference.
4974, Textile World Record, Boston, Mass.

Boss Carder in woolen mill; worked on cassimeres, thibets and overcoatings mostly; familiar with the Lombard, Davis & Furber machines; 50 years of age, married; will not go to Me., N. H., Vt., Pa., N. Y., N. J., West, South or Canada; good reference.
4975, Textile World Record, Boston, Mass.

Overseer of Woolen Carding; worked on all kinds of stock from 1 to 10 run, fancy and cotton mixes; familiar with all makes of cards, feeds and condensers; 37 years of age, married; good reference.
4965, Textile World Record, Boston, Mass.

COTTON CARDERS.

Cotton Boss Carder or superintendent of cloth or yarn mill; worked on all kinds of cotton goods, coarse and fine, in cotton cloth and yarn mills, including colors of all kinds; familiar with all makes of cards, drawing frames and speeders, combers, etc.; 44 years of age, married; good reference.
4964, Textile World Record, Boston, Mass.

Cotton Boss Carder or second hand; worked on all classes of cotton goods used for cloth and knit; familiar with the Hetherington, Mason, Saco & Pettee, Dobson & Barlow, Whitin, Howard & Bullough machines; 29 years of age, married; will not go to Pa., N. J., South or Canada; good reference.
4889, Textile World Record, Boston, Mass.

Cotton Carder or superintendent of yarn mill; worked on coarse and fine; familiar with all makes of machinery; will not go South; 43 years of age, married; good reference.
4873, Textile World Record, Boston, Mass.

COTTON SPINNERS.

Boss Ring Spinner, spooler and warper; worked on all kinds of yarns from 16 to 90 warps or filling; draft from 8 to 12, American cotton; familiar with the Biddeford, Lowell, Whitin, Fales & Jenks, and all kinds of American machinery; will not go Pa., N. Y., N. J., West, South or Canada; 35 years of age, married; good reference.
4970, Textile World Record, Boston, Mass.

Second Hand of spinning and twisting in cotton mill; worked on English, colored and botany wools; familiar with the Prince, Smith & Son, Hall & Stell, J. B. Farrar and Lowell Machine Shop makes of machines; 31 years of age; will not go to Me., Pa., N. Y., N. J., West or South; good reference.
4958, Textile World Record, Boston, Mass.

Overseer of Spinning or general second hand worked on all kinds of cotton goods; familiar with most any frame in spinning; 32 years of age, married; good reference. 4496, Textile World Record, Boston, Mass.

WOOLEN SPINNERS.

Boss Spinner in a woolen mill or superintendent of 4 to 6 set knitting mill; worked on flannel goods, tweed and knit goods; familiar with all makes of mules; 49 years of age, married; good reference.
4947, Textile World Record, Boston, Mass.

Boss Spinner in woolen mill; worked on all classes of woolens and mixes; familiar with the J. & B. and D. & F. machines; 38 years of age, married; good reference; will not go West, South or Canada.
4976, Textile World Record, Boston, Mass.

WOOLEN DESIGNERS.

Designer in a Small or assistant in a large mill. Worked on fancy worsteds, cotton worsteds, cassimeres, piece and cross dyes. Familiar with Crompton & Knowles looms. Will not go West, South or Canada. Would prefer a position in Massachusetts, Rhode Island or Connecticut. Good reference. 25 years of age. 4678, Textile World Record, Boston, Mass.

Woolen Designer, supt. or asst. supt.; worked on fine worsteds, woolens, dress goods, also cotton warp goods; familiar with all makes of worsted, woolen and cotton machinery; will not go to Me., N. H., West or Canada; 47 years of age; good reference. 4799, Textile World Record, Boston, Mass.

Assistant Designer in a small woolen mill; worked on woolens and worsteds; familiar with the Knowles looms, and dressing reel; 20 years of age; will only go to Mass., R. I., and Conn.; good reference.
4886, Textile World Record, Boston, Mass.

KNITTERS.

Superintendent hosiery mill or finisher or dyer; worked on full fashioned and seamless hosiery; 30 years of age; good reference.
4979, Textile World Record, Boston, Mass.

Second Hand in knitting mill; worked on straight, plain, plaited and all kinds of shaped work; familiar with Scott & Williams, McMichael & Wildman, Nye & Tredick, Fisher, Stafford & Holt, Snyder & Huse machines; 27 years of age; good reference.
4980, Textile World Record, Boston, Mass.

Superintendent of hosiery mill with over 25 years' experience wishes position as superintendent; thoroughly understands knitting, finishing and dyeing of all grades of cotton seamless hosiery; familiar with Standard knitters, also ribbers, loopers, etc.; excellent handler of help; can furnish best of references; 50 years of age, married.
4140, Textile World Record, Boston, Mass.

Superintendent or assistant of a knitting mill, or charge of finishing, seaming and packing; worked on full fashioned, circular, balbriggans, men's, ladies', children's ribbed union suits, stockings and sweaters; familiar with nearly all kinds of machinery; 34 years of age, married; good reference.
4950, Textile World Record, Boston, Mass.

Boss Knitter or superintendent; worked on stockinets, glove linings, elderdowns, astrachans, underwear, etc.; familiar with the Cramer, Tompkins, Gormley and other makes of machinery; 47 years of age, married; good reference.
4956, Textile World Record, Boston, Mass.

Manager of Knitting Mill with capital to invest on sweaters; prefers a concern selling to the retail trade.
4967, Textile World Record, Boston, Mass.

Superintendent of a Knitting or cotton yarn mill; worked on underwear, sweaters, wool and cotton; familiar with the Davis & Furber, Dobson & Barlow, cotton system, making cotton and merino, on some machinery; 50 years of age; good reference. 4467, Textile World Record, Boston, Mass.

Sewing Machine Fixer; worked on balbriggans and white tops; familiar with the Wilcox & Gibbs, Merrow, Union Special, etc.; prefers Mass. or R. I.; 20 years of age; good reference. 4488, Textile World Record, Boston, Mass.

Foreman or Fixer in a hosiery mill; worked on ladies' half hose; familiar with the Geo. D. Mayo Acme, Hepworth, loopers, Wildman and Brinton ribbers and sewing machines; will not go to Mass., R. I., Conn., Me., N. H., Vt., N. Y., N. J., West or Canada; good reference. 4469, Textile World Record, Boston, Mass.

Boss Knitter, boss finisher, sewing machine fixer, or superintendent of small mill; worked on all classes of goods; familiar with all kinds of machinery, both latch and spring needle; prefers Canada; 38 years of age, married; good reference.
4878, Textile World Record, Boston, Mass.

Overseer or Fixer on knitting machines; worked on worsted, cotton, merino and mercerized underwear; familiar with Scott & Williams, McMichael, Wildman, Snyder, Fisher, Cooper circular spring needle and Tompkins spring needle on balbriggans; 31 years of age, married; good reference.
4763, Textile World Record, Boston, Mass.

Hosiery Mill Superintendent or boss dyer for large mill, running on aniline blacks and colors; worked on boys', misses' and children's, 1 and 1 and 2 and 1 ribbed hose, ladies' hose and men's half hose from 108 to 200 needle; familiar with all makes of machinery; 37 years of age, married; good reference. 4190, Textile World Record, Boston, Mass.

Overseer of Finishing on hosiery; worked on all kinds of seamless and fancy goods; will not go to Maine, New Hampshire, Vermont, Connecticut, South or Canada; 27 years of age; good reference.
4744, Textile World Record, Boston, Mass.

KNITTERS.

Superintendent or Overseer; worked on 188-200 needle plaited work; 128-160-176-188-200-220 needle, cotton, wool and mercerized hosiery; 240 needle ladies' hose; familiar with the E. Jenckes, Banner, and Geo. D. Mayo footers; H. Brinton, Scott & Williams ribbers, and loopers of different makes; 20 years of age; good reference. 4463, Textile World Record, Boston, Mass.

Boss Knitter or superintendent of small mill; worked on ladies', men's and children's cotton and worsted ribbed underwear, both latch and spring needle, also sweaters, plain and fancy stitch; familiar with S. & W., M. & W., S. & H., Snyder, Fisher, Leighton, Brinton, also Cooper and Crane spring needle machines; prefers the West or South; 27 years of age, married; good reference.
4479, Textile World Record, Boston, Mass.

Boss Knitter or fixer; has worked on hosiery; familiar with the Geo. D. Mayo, Hepworth and German loopers; 24 years of age, married; will only work in the South; good reference.
4835, Textile World Record, Boston, Mass.

Overseer of Knitting; worked on all classes of hosiery; familiar with all makes of machinery; 29 years of age, married; will not go to Mass., R. I., Conn., Me., N. H., Vt., N. Y., N. J., or Canada; good reference.
4837, Textile World Record, Boston, Mass.

Overseer of Finishing or sewing machine fixer; worked on union suits and some two piece suits; familiar with all makes of knitting and sewing machines; will not go to Canada; 24 years of age; good reference.
4818, Textile World Record, Boston, Mass.

Superintendent, assistant or boss knitter in underwear mill; worked on ladies', gent's and children's light and heavy weight, 24 and 36 gauge; familiar with Nye & Tredick, McMichael & Wildman, Scott & Williams, Stafford & Holt, Snyder & Fisher machines; will not go to Mass., R. I., Conn., Me., N. H., Vt., South or Canada; 27 years of age, married; good reference.
4815, Textile World Record, Boston, Mass.

Superintendent, boss finisher or boss knitter on circular rib machines; worked on men's and ladies' underwear; has been making men's for fourteen years; familiar with the Nye, Tredick, McMichael, Wildman, and all makes of rib and sewing machines; 45 years of age, married; will not go West, South or Canada; good reference.
4803, Textile World Record, Boston, Mass.

Superintendent, sewing machine fixer or boss knitter on latch needle machines; worked on all kinds of underwear; familiar with all makes of machinery; will not go South or Canada; 32 years of age, married; good reference.
4832, Textile World Record, Boston, Mass.

Superintendent or foreman in a knitting mill; worked on high grade ladies', misses', men's and boy's sweaters, jackets, sweater coats, blouses, skirts, mufflers, toques, mittens, etc.; familiar with all makes of jacquard and flat knitting machines, circulars and ribbers; also able to look after the finishing department; prefers West; 30 years of age; good reference.
4746, Textile World Record, Boston, Mass.

Overseer of Knitting or fixer; worked on all kinds of cotton hose or half hose, ribbed or plain, cashmere and worsted; in fact hose of all kinds and mixed goods; familiar with the Mayo, Acme, some experience with ribbers, loopers and other machinery; 27 years of age, married; good reference.
4764, Textile World Record, Boston, Mass.

Fixer on Seamless hose machines; familiar with Acme and Mayo machines; 28 years of age, married; good reference.
4767, Textile World Record, Boston, Mass.

Overseer of Finishing or second hand; worked on nearly all grades of men's, women's and children's cotton hosiery; will not go to Mass., R. I., Conn., Me., N. H., Vt., N. Y., West or Canada; 20 years of age; good reference. 4437, Textile World Record, Boston, Mass.

DYERS.

Boss Dyer in Woolen Mill; worked on raw wool, shoddies, woolen and worsted piece dyes, cross dyes, union and resist colors; 34 years of age, married; will not go to Pa., West, South or Canada; good reference.
4952, Textile World Record, Boston, Mass.

Boss Dyer; worked on wool, cotton, shoddy, rags, yarns, piece dyeing, woolens, worsteds, unions, cross dyes, wool scouring, carbonizing, alizarine and aniline dyes; familiar with most all kinds of machinery; 35 years of age, married; good reference.
4973, Textile World Record, Boston, Mass.

Boss Dyer in Woolen Mill; worked on unions, ladies' broadcloths, worsted yarns and piece dyes of all kinds; worked on all kinds of machinery used in a dye house; 33 years of age; will not go to Pa., West, South or Canada; good reference.
4959, Textile World Record, Boston, Mass.

Boss Dyer in woolen mill; worked on worsted and woolen piece dyes, unions, raw stock, yarn; his line is piece dyes and aniline colors; 32 years of age, married; good reference.
4961, Textile World Record, Boston, Mass.

Overseer of Dyeing; worked on denims, light and dark shades, awnings, checks, tickings, stripes, suiting and plaids with indigo (synthetic) and cotton warps; familiar with various makes of machinery; will not go West or to Canada; prefers N. E.; 27 years of age; good reference. 4481, Textile World Record, Boston, Mass.

Overseer of Dyeing or second hand; worked on wool, cotton and shoddy for coverts, cassimeres, cloakings, dress goods, piece dye worsteds, men's wear and dress goods, worsted and cotton yarns to stand cross dyeing and union piece dyes; will not go South; 28 years of age; good reference. 4460, Textile World Record, Boston, Mass.

Silk Overseer of Dyeing, or second hand; worked on spun silk, embroidery, button hole twist, silk for fast and plain, also understands alizarine work, Persian berry yellow, etc., organzine from colors or blacks, best line is spool and spun, plain and fast familiar with dyeing machines made at Amsterdam, N. Y.; 33 years of age, married; good reference. 4451, Textile World Record, Boston, Mass.

WORSTED MILL OVERSEERS.

Superintendent of worsted yarn mill by Englishman 38 years of age, married; made all kind of yarns; good reference; will not go West, South or Canada. 4714, Textile World Record, Boston, Mass.

Assistant Superintendent, boss spinner, spooler or twister in worsted mill; worked on from single 12s up to 60s on all grades of wool; familiar with Prince, Smith & Son, Hall & Stells, Fales & Jenks, Collins, twisting, Foster winding and mostly all kinds of warp and spooling machinery; will not go West, South or Canada; 30 years of age, married; good reference.
4816, Textile World Record, Boston, Mass.

Worsted Drawing Manager or section hand; worked on mohair, English wools and cross breds; familiar with Prince, Smith, Hall & Stells, and Smith Royde Works; 43 years of age, married; good reference.
4756, Textile World Record, Boston, Mass.

Superintendent or overseer of drawing, spinning or twisting; worked on all kinds of stock from 1 to 80s, mohair and alpaca; familiar with Prince, Smith & Son, Taylor, Wardsworth, Collins Bro., Platts, Lowell Machine Shop, Hall & Stell and Farrar makes of machinery; will not go West; 49 years of age, married; good reference. 4334, Textile World Record, Boston, Mass.

Overseer of Drawing, spinning, twisting, or superintendent; worked on fancy mixes, and white yarns from 9 3/4 to 50 3/4; familiar with the Lowell, Prince & Smith, Collins, Boyd, French spinning system; will not go to Me., N. H., Vt., South or Canada; 30 years of age, married; good reference. 4429, Textile World Record, Boston, Mass.

MISCELLANEOUS.

Silk Mill—loom fixer, foreman, or superintendent of small mill, second hand or foreman in cotton mill; familiar with most all kinds of goods, cotton, woolen and silk, dress goods, ginghams, shirtings, denims, tickings, cottonades, silks, linings, serges, satins, soft silks and raw stock; familiar with all makes of looms; 50 years of age, married; good reference.
4951, Textile World Record, Boston, Mass.

Salesman for Dyestuff Firm, or dyer and finisher in woolen mill; has worked on all kinds of woolens; familiar with all kinds of machinery; 36 years of age, married; good reference.
4957, Textile World Record, Boston, Mass.

Overseer of Burling and sewing; worked on fancy worsted and woolen goods; 39 years of age, married; good reference.
4966, Textile World Record, Boston, Mass.

Overseer of Burling and Sewing; worked on all classes of light and heavy worsted and woolen suitings, overcoatings and dress goods; will not go to Conn., Vt., Pa., N. Y., N. J., West, South or Canada; 28 years of age; good reference. 4791, Textile World Record, Boston, Mass.

Loom Fixer; worked on all classes of woolen goods; familiar with Crompton & Knowles looms, but would prefer Knowles looms; will not go to N. H., Vt., Pa., N. Y., N. J., West, South or Canada; 48 years of age, married; good reference. 4497, Textile World Record, Boston, Mass.

Boss Comber; worked on Egyptian, American and Sea Island cotton; familiar with Whitin, 6 or 8 heads, Dobson & Barlow, single and double nip, Nasmith combers, also German makes of combers; wishes to go South; 24 years of age; good reference. 4428, Textile World Record, Boston, Mass.

Clerk or Confidential Clerk to superintendent of a woolen or worsted mill. Has been employed in leading mills in Massachusetts. Good reference. 39 years of age, married. 4651, Textile World Record, Boston, Mass.

Overseer of Burling and Mending, or clothing house examiner; worked on fine and medium worsteds, cassimeres, kerseys, cheviots, dress goods and coverts; will not go to Me., N. H., Vt., West or Canada; 49 years of age, married; good reference. 4282, Textile World Record, Boston, Mass.

Electrical Engineer or manager advertising; technical education; six years with large electrical company. Address, "C. S. D.," Textile World Record, Boston, Mass.

Bookkeeper, Office Manager, traveling salesman or assistant superintendent; worked in cotton and wool mill offices; 40 years of age, married; will not go West, South or Canada; good reference. 4207, Textile World Record, Boston, Mass.

Overseer of ring or mule spinning, or both, or assistant superintendent; worked on yarns for thread; familiar with the Dobson & Barlow mules, Howard & Bullough American frames, English and Mason frames; 31 years of age, married; will go anywhere for a good position, but prefers the Eastern States; good reference.
4841, Textile World Record, Boston, Mass.

4020 Salaries Raised In One Year

This is a twelve month's record showing the number of students that voluntarily reported increases in salary and position as a *direct result* of the help received by them from the International Correspondence Schools. This marvelous record tells better than words how well the I. C. S. enable men and women to increase their earnings by fitting them for more important positions. If you are not satisfied with your present salary and position just write a letter telling us to what position you would like to advance. We can help qualify *you* for a better position, a brighter future, and an increased salary. *Write today.*

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Electrolytic Caustic Potash

Solid } 90%, 100 to 600 lb.
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Liquid, 45% to 49%, 325, 650, 1300 lb. Drums

MURIATIC ACID - LIQUID CHLORINE

NATIONAL ANILINE & CHEMICAL CO., New York City
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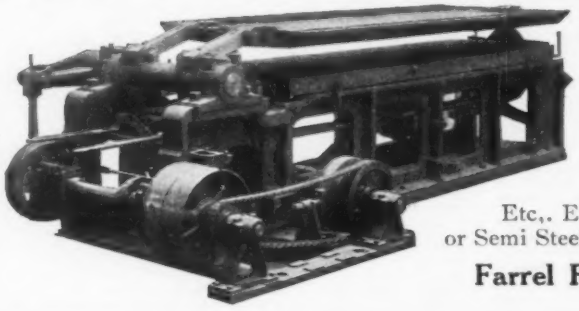

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Chilled and Soft Iron Rolls. Heavy Transmission Machinery. Machine Moulded and Machine Cut Gearing, to 20 ft. diameter, Etc,. Etc. Heavy Castings, in Gray Iron or Semi Steel.

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Have you connecting machines whose relative speeds need correcting?

If so, you can save big money on pulley expenses by using our expansion pulleys. They can be put on any shaft and are easily and instantly adjusted by means of hand wheels. A big output accounts for these.

Low Prices on Expansion Pulleys.

18in. to 22in. diameter	$32.50	28in. to 32in. diameter	$42.50
23in. to 27in. "	37.50	32in. to 36in. "	47.50

THE TAYLOR & FENN CO.,
Machinists and Founders Hartford, Conn., U. S. A.
ALEXANDER & GARSED, Southern Agents, Charlotte, N. C.

Mill News.

*Massachusetts, New Bedford. The New Bedford Textile Co., reported incorporated last week, will begin manufacturing at once in the Z. B. Davis building on Seneca St., in the quarters formerly occupied by the Crescent Mfg. Co. They will manufacture bands for textile purposes. The capital stock is $5,000. Matthew T. Glennon is president, and Chas. R. Gidley is treasurer. Both of these men were formerly connected with the Lambeth Rope Corp. of this city.

*Massachusetts, North Brookfield. The two new mills to be built during the spring and summer for the Oxford Linen Mills will be used for carding and spinning and for a power house.

*New Jersey, East Rutherford. The plush mill being started here by George Schmiedel of Brooklyn, N. Y., will be known as the Georgian Plush Mills. Manufacturing will begin about April 1 on lines of silk and cotton plush, which will be sold direct. The product will be dyed and finished.

*New Jersey, Paterson. Franz C. Reinhardt has filed plan for his proposed $50,000 mill at Clay and Lewis Sts.

New York, New York City. The Renke Swiss Lace Works have been incorporated with capital stock of $15,000 by Geo. T. Renke, president, and Wm. Corsa, treasurer. Mr. Renke will attend to the buying and superintend the plant. They will dye and refinish all sorts of textiles.

New York, Troy. Cluett, Peabody & Co. will build a bleachery on Peebles Island. The bleachery proper will be 2 stories high, with basement, 290 by 100 ft. A 4-story and basement storehouse will be erected, 50 by 100 ft. Contract for construction work has been awarded to the Torrington Building Co. of Torrington, Conn. A. E. Cluett is the engineer for Cluett, Peabody & Co., and is in charge of building operations and arrangements for equipment.

*Pennsylvania, Northampton. The Atlas-Portland Cement Co. will not manufacture the cotton cloth to be used in their new bag plant, at least not for the present, but will buy osnaburg in the open market. The material is to be printed and converted into bags at the mill now under construction, which will have capacity of 1,000,000 bags per month. Their purchasing agent's office is located at 30 Broad St., New York City.

Pennsylvania, Philadelphia. The San-Knit-ary Bleachery has been incorporated under the laws of Delaware with capital stock of $20,000. Simon Friedberger, the well known textile manufacturer of Philadelphia, who is president of the San-Knit-ary Textile Mills, manufacturers of towels, etc., is president and general manager of the new corporation. They have purchased the old-established dyeing plant of John Doak's Sons, 2612-22 North Front St., and after extensive alterations and additions, will operate it as a bleachery, handling hosiery, underwear, yarns, towels and all kinds of knit goods. They will specialize on fast colors on hosiery and knitted fabrics.

Pennsylvania, Philadelphia. The Janero Dye Works are fitting up the dyehouse in rear of the buildings at 3d and Huntingdon Sts. with machinery for the dyeing of tops in the ball, backwashed and gilled, which they claim saves recombing, making a specialty of fast blacks and colors. The plant is also equipped for printing tops by the Vigoureux system. The plant is expected to be in operation within a week. Auguste Friedrichs, Jr., is the owner.

Pennsylvania, Philadelphia. The Courtrai Linen Thread Co., Inc., Elizabeth and Unity Sts., Frankford, are making extensive improvements to their plant, which it is said will cost them in the neighborhood of $100,000 when finished. They are at present having erected a new two-story brick dye and bleach house, 80 by 40 ft., and have installed new boilers and engines, polishing and finishing machinery, and a number of new twisters. These improvements, it is claimed, are only preliminary to other additions which are to be made within a short time.

*Tennessee, Memphis. The Memphis Bag Co., whose plant was destroyed by fire, will rebuild at once. M. M. Bosworth is buyer.

Lanky vs. Yankee.

[At a meeting of the British Cotton Growing Association held in Manchester last week (1st March), it was decided to ask the operatives to contribute one penny per month.]

Neaw, then, yo' speculators at t'other side o' th' say,
Yo' chaps 'at reck for nowt at o', as long as yo' mak' hay,
Yo' thieves an' robbers, waxing fat on th' bread o' th' hungry poor,
Stond eawt o' th' road o' honesty—eawr British Cotton Grower.
We'n had yo'r fingers at eawr throats until we'n gasped for breath,
But neaw we'n pood eawr jackets off we meon to feight to t' death;
It owt to bi to t' death o' yo', yo' scum o' devilish greed,
Why should yo' cumber th' greawnd at o'? What worth's eawr Christian creed?

A millionaire, unsatisfied an' playin' th' devil's part!
A microscope waint find his soul, his conscience nowt 'll smart,
A granite-hearted scoundrel polluting th' air we breathe!
An' cringing cowards 'at we are, his brow we laurel wreathe.
Nay, nay, we're noan o' cowards! There's pluck i' Lankysheer,
For th' men an' th' mesthurs hand in hand han' fowt for mony a year,
We're feightin' yet, but conno' win unless theau does thi share—
It's nobbut brass con feight wi' brass. Say, hasta owt to spare?

—J. J. Wild, in the Cotton Factory Times.

Cut Your Light Bills

You can have more natural light in your plant, and reduce your expenses on gas and electricity—as well as the liability of mistakes

By Using Rice's Mill White

on your walls and ceilings. It makes a permanent coating; enamel gloss finish; can be washed; does not hold dust.

FREE OFFER—We will send a gallon of Rice's Mill White free to any mill owner willing to pay expressage and mention this publication.

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HUMIDIFYING

With the Koerting System various methods are employed to obtain "Perfect Humidifying."

By the Central Chamber System

water is atomized - torn into the finest atoms, like mist, by Koerting spray nozzles installed in a central chamber in which air is put under pressure, thus becoming thoroughly saturated—humidified—and then distributed to the rooms desired.

This central chamber system also combines heating and ventilating in winter, and ventilating and air cooling in summer.

Our catalogue 6-HH illustrates the various other methods and will be sent on request to anyone interested. Estimates furnished on request.

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FOR TEXTILE MILLS

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Cooper Hewitt Lamps come nearer meeting this requirement than any other illuminant. The light is diffused, just like daylight, causing no deep shadows. Its peculiar quality of magnifying objects is of special value in textile mills. The current cost for Cooper Hewitt Lamps is one half that for arcs and tungstens, and one fifth that for incandescents. *For particulars see Circular 60.*

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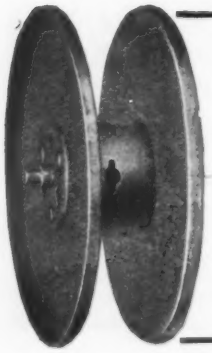
220 West 29th St., New York



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Great advantage over the old fashioned cast iron or wood.

Stamped Steel Beams are up-to-date.

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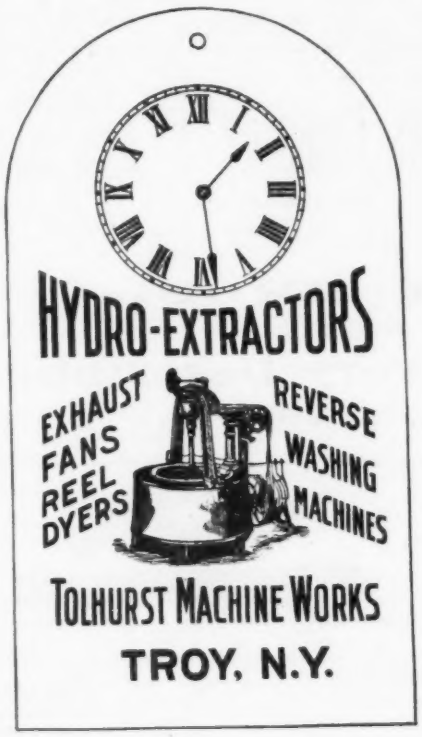
Time Board for Dye Houses.

The illustration shows a useful and simple device which is being distributed by the Tolhurst Machine Works of Troy, N. Y. It is hung up near the tub or extractor and the hands are set at the



time the load should be taken out and serves as a convenient reminder to the operative. We understand that this may be had by any manufacturer or dyer upon application to the Tolhurst Machine Works.

O. F. Zurn & Co. Filling Orders Promptly.

The large building of O. F. Zurn & Co., at The large buildings of O. F. Zurn & Co., at 2736 N. Broad St., Philadelphia, which they have been occupying for the past year, was destroyed been occupying for the past year, were destroyed by fire on Saturday, March 26. In this plant, which was one of the best equipped of the kind in the country, the company manufactured oils, compounds and softeners which have been used for years by the general textile as well as the knitting trade, among whom they numbered many customers. The company desires to announce to the trade that notwithstanding this loss they have opened up offices at 2707 N. Broad St., which they will use temporarily until their old plant has been rebuilt, and are able to take care of orders promptly.

Many Orders for Winders.

The Oswald Lever Company, builders of textile machinery at Lehigh Ave. and Front St., Philadelphia, have been receiving many orders for their new hosiery winder, the West being noted as very extensive purchasers, with a good local trade steadily coming in from the silk as well as the manufacturers of cotton and woolen goods.

To Exploit the South.

President Finley recently announced that the Southern Railway will in the near future, through its Land and Industrial Department, again enlarge the publicity and promotion work which it has carried on for the development of the country reached by its lines. It was necessary to curtail this work somewhat following the business depression of 1907, on account of both general and special conditions. It is now felt that not only the business conditions in the country, but the local situation in the Southeast, warrants a larger campaign for the location of industries, the bringing of new settlers, and a general development work, that is the resumption in full of the company's efforts to build up the Southeast.

In carrying out this policy, there will be a larger use of the trade, agricultural, and other newspapers and periodicals of the North and West, the publication of many special pamphlets, exhibits t many Northern fairs, and a larger work in Northern Europe. The Southern has found that one of the best methods of publicity is in the exhibits of the products of its territory at the larger fairs held in the North and West, and more attention than ever will be paid to this line of work. The South will be advertised in Northern European countries by the circulation of specially prepared matter, and by the use of newspapers, in a way that is consistent with our immigration laws and as is permitted by the laws of the respective countries.

The Southern has maintained for some years a European agency of its Land and Industrial Department, with headquarters in London, which will carry on the prosecution of active efforts to interest land seekers and investors from that side of the ocean in the South. The most thorough cooperation possible is to be given to local business and other organizations in the development of the various communities along the Southern system.

Personals.

J. H. Wright has accepted the position as overseer of knitting at the Whitehead Hosiery Mills, Burlington, N. C. He was formerly employed as knitting machine fixer at the Wisdom Hosiery Company, Paducah, Ky.

Mrs. Julia Charbonneau, forelady of the finishing department of the N. E. Knitting Company, Winsted, Conn., has severed her connection with that company. She was presented with a gold watch and an umbrella as a token of the high regard in which she was held. Her successor is Miss Minnie Moquin, who comes from Cohoes, N. Y.

EXCELSIOR WOOL OIL COMPOUND and COTTON SOFTENER

It Pays to Buy Your Supplies from the Makers

The Excelsior Compounds are the best lubricating and softening products for wool, cotton, wool and cotton mixed. Eliminates the scouring process and effects large saving in time and soap. They will not gum in the cards.
Write for prices and particulars.

The Burckhardt Company

Established 1841 CINCINNATI, O.

LARD OIL

Soap
Tallow
Emulcene
Wool Oils,
Etc.

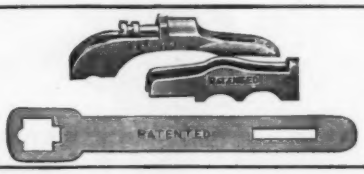
ASHWORTH BROS.,

MANUFACTURERS OF

Card Clothing of Every Description

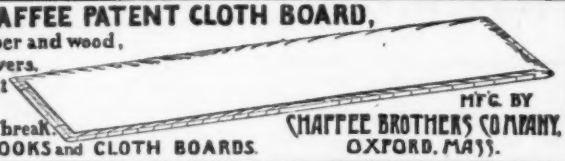
FALL RIVER, MASS.

DIXON PATENT STIRRUP ADJUSTING SADDLE
1,200,000 pairs now in use
Best Saddle for Top Rolls of Spinning Frames
Send for Samples
DIXON LUBRICATING SADDLE CO., Bristol, R. I.
Manufacturers of all kinds of Saddles, Stirrups and Levers



SAVE
Their Cost
In Freight.

THE CHAFFEE PATENT CLOTH BOARD,
Made of paper and wood,
Needs no covers.
Will not split or warp;
Not liable to break.
BOX SHOOKS and CLOTH BOARDS.



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LIGHT
Strong

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WM H. KNOWLES & CO.

Union and Front Sts., New Bedford, Mass.

LOOM REEDS

OF ALL DESCRIPTIONS

Mill Supplies. Top Roll and Clearer Coverers.
Soldered Reeds for Silk Weaving a Specialty.

Dobbins Soap Mfg. Co.

PHILADELPHIA

Makers of Soaps Especially Adapted for All Kinds of Textile Mfrs. Use. Send for Sample.

Mill News.

North Carolina, Mountain Island. On April 1 the new Armon Mfg. Co. will take over the mill now operated by the W. & J. Knox Net & Twine Co., and will make yarns, seine twine, rope, hose cord, etc. The plant contains 10,000 spindles, complete yarn dyeing equipment and is operated by water power. It is expected new spinning and twisting equipment will be added. The Armon Mfg. Co. has capital stock of $150,000. C. E. Hutchison, treasurer of the Nims Mfg. Co., and president and treasurer of the Woodlawn Mfg. Co. of Mt. Holly, is president and treasurer of this company. R. F. Craig is superintendent and with Mr. Hutchison atends to the buying. The product will be sold direct and through agents. This mill was formerly known as the W. J. Hooper Mfg. Co., then as the Catawba Electric Power Co., and last as the W. & J. Knox Net & Twine Co.

Pennsylvania, Reading. The Reading Cotton Mills, recently sold by Garner & Co. to Joseph Bancroft & Sons Co. of Wilmington, Del., have been started up by the new owners. A number of improvements are contemplated.

*North Carolina, Newton. D. M. Ausley, representing the Statesville Loan & Trust Co., has bought the Newton Hosiery Mills, formerly operated by D. J. Carpenter. The Statesville Loan & Trust Co. held a mortgage of $20,000 on the property. It is said the plant will be started up within a few days.

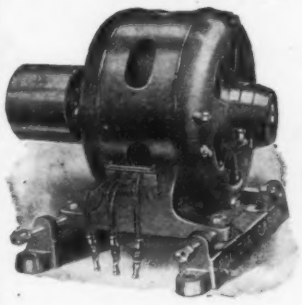
Tennessee, Knoxville. A new company has been organized under the style of the Appalachian Mills, with capital stock of $50,000 and has leased a building at Richards and McGhee Sts., which will be equipped for manufacturing men's ribbed underwear. Elmer Tator and R. N. Lotspiech, superintendent and treasurer respectively, were recently in Philadelphia making arrangements for purchasing machinery. The other officers are M. D. Arnold, president, and M. G. Thomas, manager and buyer. Mr. Thomas was formerly superintendent of the Magnet Knitting Mills of Clinton, Tennessee, and resigned this position to organize the new Appalachian Mills. The initial equipment will be 20 latch-needle knitting machines and 25 sewing machines, with complete bleaching and dyeing departments. Arrangements have been made to operate by electric power and to sell the production direct.

Tennessee, Lenoir City. The Holston Mfg. Co. has decided to increase its capital stock from $250,000 to $350,000 and build the proposed addition. This will give a large increase in the output.

New York, Brooklyn. The Hygeia Knitting Mills have been incorporated with capital stock of $25,000 by Chas. J. Wolfrei, Albert Ryder and Frank E. Loughran. The new corporation will take over the business of the New York Eagle Knitting Mills of Brooklyn, and will start with $20.000 paid in. Mr. Ryder is at present superintendent of the New York Eagle Knitting Mills.

Holtzer-Cabot Textile Motors

Are the most compact induction motors built.



Where individual motors are mounted at one side of the machine which they drive, the use of Holtzer-Cabot Motors saves valuable floor space. Ample starting torque and overload capacity. Very rugged shafts and bearings. Oil wells protected from flying particles.

These Motors will reduce maintenance costs and increase outputs.

The Holtzer-Cabot Elec. Co.
Boston. Chicago.

Short-Sighted, eh?

Some People would rather pay out $468.00 per year, in weekly wages of $9.00, than invest less than 1-2 this amount in a portable elevator for doing their piling and get better results. Would you?

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ARLINGTON MACHINE WORKS
ARTHUR BIRCH
ARLINGTON HEIGHTS, MASS.

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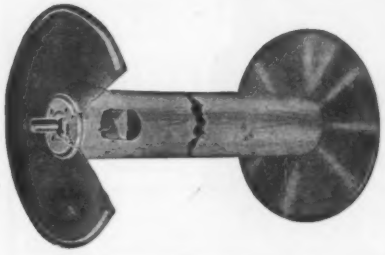

S. & D. Jack Spool
Pat. Aug. 6th, 1906
SWEET & DOYLE, Mill Furnishers
COHOES, N. Y.
The only spool made that the barrel itself acts as a support for the head. Note the recess in the head and the shoulder on the barrel. Our Claim:—A perfectly SMOOTH HEAD.—NO SLIVERS.—A STIFF SPOOL.—The STRONGEST.—The LONGEST LIVED.—As CHEAP as the BEST.—Practically INDESTRUCTABLE.

Thread and Silk **SPOOLS** of any description
made from one piece, up to 6" long and 3" dia.
We are located in the best white birch region. Our work and prices seem to satisfy the most particular customers. We can give any finish desired. Estimates furnished on samples submitted.
E. L. TEBBETS SPOOL COMPANY, Locke's Mills, Me.

BELTED—STEAM—ELECTRIC
Hundreds in Service **HYDRO** Write for Circulars
EXTRACTORS
—THE KIND FOR HARD SERVICE—
DIENELT & EISENHARDT, Inc.
Howard and Thompson Sts.
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COPPER Printing Rollers Singe Plates and Sheets
Taunton-New Bedford Copper Co.
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Our Guarantee:
Superior Quality. *Prompt Shipments.*

The Metallic Drawing Roll Co.
INDIAN ORCHARD, MASS.
MANUFACTURERS OF
Metallic Rolls
Especially adapted for Cotton Mills. 25 to 33 per cent more Production Guaranteed. Weight Reduced 33 to 50 per cent. No Leather Covering Bill.
WRITE FOR PARTICULARS.

Diehl Manufacturing Co.,
ELIZABETHPORT, N. J.
HIGH GRADE
Electrical Apparatus
A line of Slow Speed Motors Especially Adapted to Textile Work

Miil News.

*Alabama, Selma. Wm. R. Meadows and L. E. Jeffries, purchasers of the Estelle Cotton Mills, have organized the Valley Creek Mills with capital stock of $150,000 and will put the Estelle Cotton Mills in operation as soon as business conditions justify starting up. Mr. Jeffries is president of the new company, and Mr. Meadows, secretary, treasurer, general manager and buyer. The plant contains 10,816 ring spindles, 320 looms and is run by steam power. It has not been definitely decided what will be made, but probably 38 1/2-inch, 64 by 64 convertibles and narrower cloths from the same yarns will be manufactured. The present outlook is that manufacturing will be started about October 1.

Massachusetts, Holyoke. The new 6-story spinning mill of the Farr Alpaca Co., for which Samuel M. Green, Inc., of Springfield, are the engineers, has now reached the stage where they are putting on the roof. This mill is 365 feet long and 133 feet wide. Probably the most complete system ever designed for cooling a mill will be installed in this mill by the Carrier Air Conditioning Company. The system depends upon evaporation for the cooling effect, and is designed to keep the spinning room at a lower temperature than the outside on hot days. Mr. Stearns, the manager, and Mr. Green, engineer, of this plant, several years ago did some experimenting on cooling by evaporation, having equipped one of their weave sheds with a central system of spraying which has been very successful. Since then they have bought equipments for two other weave sheds from the Carrier Air Conditioning Company, so this spinning mill equipment makes the third order.

New York, Stottville. The Atlantic Mills of Providence, R. I., have purchased the plant of the Stott Woolen Co. The price paid has not been made public. They will operate the plant under the name of the Atlantic Mills. There will be no change at present in the equipment, product or management.

Connecticut, Jewett City. The new weave shed of the Ashland Cotton Company, which was designed by Lockwood, Greene & Co., engineers, is nearing completion. Mr. Grosvenor Ely, agent for this company, bought for this mill through his engineers, the Carrier System, although he had only recently equipped his spinning mill with one of the older types of humidifiers.

Connecticut, New Haven. The capital stock of the Cott-A-Lap-Co. has been increased from $10,000 to $60,000. They are dyers and finishers of burlaps, canvases, etc., for wall coverings and draperies.

*Connecticut, Norwich. Officers have been elected by the new Saxton Woolen Co. as follows: L. J. Saxton, president; C. A. Saxton, secretary, and L. H. Saxton, treasurer. The capital stock is $75,000. As noted previously, this new corporation takes over the plant of the Clinton Mills Co.

*Connecticut, Norwich. Alfred Neubergtr has decided not to locate a new silk plant at Norwich, as proposed. He has become connected with the Lehigh Valley Silk Mill of South Bethlehem, Pa.

Philadelphia Textile School

TWENTY-SIXTH SEASON

Oldest in America
Most Complete in the World

Endorsed by the Leading Educators and Manufacturers

Cotton, Wool, Worsted and Silk

Instruction given in Designing, Weaving, Carding, Spinning, Chemistry, Dyeing and Finishing

Special Courses in Textile Chemistry and Dyeing

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Day and Evening Instruction in

Picking,
Carding,
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Consulting Chemist and Chemical Engineer

Materials a Specialty. Processes—Economies—Inspection.

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American Supply Co.

Manufacturers of Reeds, Harness, Belting and General Mill Supplies

We make a specialty of Harness for American Warp Drawing-in Machine

OFFICE and STORE—135-137 Washington St., Providence, R.I. FACTORIES—Central Falls, R.I., and Fall River, Mass.

Spindles Flyers Repairs of all kinds

F. A. & P. HALL,

DOUBLING and SPOOLING MACHINES

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Caps Tubes Spinning Machinery Parts

An Essential to the Weave Room

WE ARE HEADQUARTERS

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The Loom Duster

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2110-18 W. Allegheny Ave, Phila., Pa. Manufacturers of

STEEL HARNESS and FRAMES

Sole Selling Agents { For England, Ireland, Etc., Thomas E. Power & Co., Bradford, England
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WM. M. P. BOWEN, Pres't. AMOS M. BOWEN, Treas.

U.S. RING TRAVELER CO.

U. S. RING TRAVELER CO.

MAKERS OF STANDARD

Spinning and Twisting Travelers of every description. Wire Specialties of All Kinds.

92 Westfield Street, - - PROVIDENCE, R. I.

Shaw's "Victor" Travelers

Manufactured by

VICTOR SHAW RING TRAVELER CO.

Incorporated 1899.

23 Sabin Street, PROVIDENCE, R. I.

Personals.

Abraham Hey died at his home, 357 So. Main St., Woonsocket, R. I., after a brief illness. Mr. Hey had been overseer of weaving at the Dunn Worsted Co. of Woonsocket for several years. He was a member of the Woolen & Worsted Overseers' Association and the "Woodmen" of America. The pall bearers were W. E. Chamberlain, H. C. Wagner, F. P. Gallagher, Wm. R. Dailey, Rudolph Kessel and Chas. Campbell, the overseers who had known Mr. Hey for some time. Among the handsome floral tributes was a large wreath of choice flowers with inscription Rody Camp No. 7,727, a broken circle, a pillow and mixed flowers. Burial was at Pascoag. R. I.

Clark B. Saunders, overseer of the wet finishing department at the Burlington Mills, Winooski, Vt., died at his home, 92 E. Allen St., March 6, of tuberculosis. Mr. Saunders had been employed at the Burlington Mills for over two years and had also been employed in mills in Maine and New Hampshire. He was a member of Hamilton Lodge, I. O. O. F., of Burlington, and Lodge 54, F. & A. M., of North Vassalboro, Me. His remains were taken to Westerly for interment.

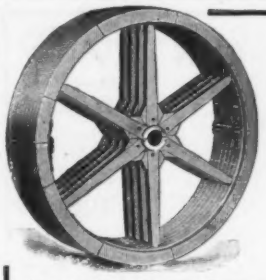
E. A. Kisro, boss finisher at the Slater Woolen Company, Webster, Mass., was surprised by a number of his friends on his thirty-eighth birthday, Saturday evening, March 12. He was presented with a handsome smoking set, a box of choice cigars and a quantity of cut glass ware. Mr. Adams Lane made the presentation speech in behalf of the friends present. Mr. Kisro responded in a very appropriate manner. There were guests from Worcester, Putnam, Providence, Fitchburg, Leominster, Clinton and Franklin. Fostmans' Qaurtet furnished both vocal and instrumental music throughout the evening. A bountiful line of refreshments were served.

Frank E. Mencer, general manager of the Ohio Yarn Mills Company, Cleveland, Ohio, has called on builders of textile machinery in Lowell, Boston and Worcester, in the interest of the company, and purchased necessary machinery, which he had shipped to Cleveland. This machinery was added on account of the increase in business which is being done at this mill. This mill is running day and night on yarns for underwear and hosiery mills.

William Harrop, superintendent of the N. E. Cotton Yarn Company, Taunton, Mass., has been transferred to the Rotch Mills, New Bedford, Mass., to succeed Robert Schofield. Charles W. Young of New Bedford, Mass., has taken the position at Taunton, Mass., vacated by Mr. Harrop. Mr. Young has been overseer at the Bennett Mills.

Wm. Buckley, overseer of the blue dyeing at the Clyde Print Works, Providence, R. I., has resigned. His successor is Ernest Lamoureux.

Geo. L. Colburn, for the past six years principal of the mechanical department of the New Bedford Textile School, New Bedford, Mass., has resigned to accept a position with the Boston Gear Works, Quincy, Mass.



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SAGINAW, MICH., U. S. A.

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Sales Agencies in all the Principal Cities.
Cable Address: Engrave. A B C and Lieber's Code s

ALMOND RIGHT ANGLE TRANSMISSION

Self-Contained
Noiseless
No Gears
Does Not Throw or Spill Oil

TRANSMITS POWER AT RIGHT ANGLES

Its motion is positive and there is no variation in angular velocity. The Friction Loss is from 7 to 10 per cent. which is less than an ordinary countershaft.

T. R. ALMOND MFG. CO.
ASHBURNHAM, MASS.

Reliance
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Sea Lion
(*Waterproof*)

Guaranteed Leather Belting
Pure Oak Tanned

Chicago Belting Company
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FORTY-ONE of the largest textile mills in America are using the

Statesman 100% Pure Paint and Mill-Light Gloss Enamel

Isn't this significant? Samples furnished.

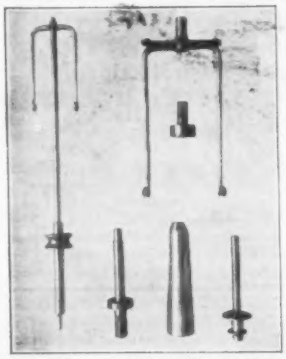
Charles H. Brown Paint Co., 188-190 Montague St., Brooklyn, N.Y.

Established 1796

Special shaped carbon, black diamond, pointed tools for turning paper, rag, corn husk and cotton calender rolls, hard rubber, fibre, etc. Manufactured by

Thos. L. Dickinson, Successor to John Dickinson, 64 Nassau St. New York City.

CALDER MACHINE WORKS



We Manufacture
Spindles
Flyers
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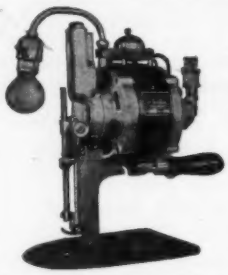
and all parts for Worsted and Silk Spinning.

Spindles and Flyers of every description promptly repaired.

420 North Third St., Phila. Pa.

THE BALLARD CUTTER



It is the SAVING and not the EARNING that makes people rich. What ONE Ballard will SAVE you a year, is enough to make some people happy.

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NEW ENGLAND BUTT COMPANY,

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BRAIDING MACHINERY

ALL STYLES AND KINDS FOR FLAT AND ROUND BRAIDS.

SOLID SASH AND CURTAIN CORDS,

SHOE AND CORSET LACES, BANDING

AND ALL BRAIDED FABRICS.

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Reeds, Harnesses, Lingoes, Shuttles and Quills
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For flexible materials, woolens, sheeting, blankets, overalls, waste, etc., for shipping and storing.
Simplicity of construction enables anyone to successfully operate our belt, electric, hydraulic or hand power presses.
Steel constructed, strong, rapid and obtaining greatest compression with the least power.
Our chainless toggle system is superior to any other type and requires 70 per cent. less power for operation.
Automatic time and labor saving devices, saves cost of maintenance and guarantees long life.
Requires little floor space and produces most compact bale.
We build a variety of thirty styles and sizes to meet requirements. Write for Catalogue.

LOGEMANN BROTHERS CO.
MILWAUKEE WIS

The 1910 Knit Goods Directories are Ready.

The American Directory of the Knitting Trade for 1910; compiled by the Textile World Record; 634 pages; 4 textile maps; Lord & Nagle Co., Boston, New York and Philadelphia, publishers. Price $1.50.

The American Directory of the Knitting Trade in the United States and Canada for 1910 has been issued and can be supplied immediately upon order. This is the 28th annual edition and it is a large improvement over any directory of the knitting trade previously compiled.

In its preparation the best efforts of the most efficient organization engaged in textile directory work have been put forth. The field has been covered thoroughly and promptly and the information given is brought close to the date of publication, insuring a high degree of accuracy. This will be appreciated by directory users.

Each year the book has been made more complete, accurate and useful and this year the large number of new concerns added necessitated the employment of a new style of type and arrangement in order to prevent the book from becoming too large. Special mention should be made of the lists of jobbers and wholesalers of knit goods. About 1,000 new firms have been listed in this section which have never been listed previously in any textile directory.

A brief synopsis of contents of this Directory, familiarly known as "The Red Book" by the knitting trade, is given below:

Full report of every knitting mill in the United States and Canada arranged alphabetically by states and towns, giving capitalization; names of the officers, including superintendent and buyer; kind of goods made; number of knitting machines, whether latch or spring needle; number of sewing machines; whether the mill dyes, bleaches or finishes; kind of power; number employed; selling agent; kind and sizes of yarn bought.

Special copyrighted maps of the mill districts, showing the cities and towns where there are knitting mills. It is indexed so any town may be quickly found.

Carefully classified index of manufacturers according to kind of goods made. All the manufacturers of the same kind of goods are grouped together.

Alphabetical index of manufacturers giving the page number where full report of mills may be found.

List of dyers, bleachers, finishers, printers, etc., making a specialty of knit goods work.

Manufacturers' selling agents and commission merchants handling knit goods; the name of the person in charge of the knit goods department is given. When a concern is sole agent or special selling agent for certain mills the names of the mills sold for follow the agents' names.

New York buyers of knit goods for out of town jobbers and large retailers; buyers are arranged alphabetically with the jobbers and retailers bought for arranged under the name of the buyer. The arrangement is such that jobbers may easily be distinguished from retailers.

List of jobbers of knit goods, telling the kind of goods handled and the name of the buyer, with the New York address.

Department stores and large retailers handling knit goods, with the names of the knit goods buyers and the address of the New York office.

An index of machinery and supplies used in the manufacture of knit goods also yarn dealers supplying knitting yarn.

The American Directory of the Knitting Trade in the United States and Canada is a handy size for the pocket and combines in one book all lists of manufacturers of and dealers in all knitted fabrics. It can be obtained of the publishers, Lord & Nagle Co., 144 Congress St., Boston, Mass. The price is $1.50.

The Knit Goods Trade for 1910; compiled by the Textile World Record; Lord & Nagle Co., Boston, New York and Philadelphia, publishers. Price $1.00.

The Knit Goods Trade contains only the lists in the American Directory of the Knitting Trade which are useful to the selling end of the industry; that is, selling agents, New York buyers, jobbers, department stores and large retailers. Its publication was suggested by the practice among salesmen of tearing out of directories the lists which they use in order to avoid carrying the whole book. This practice was expensive and gave lists in an unsatisfactory condition, but was the only course open to salesmen who had no place for **heavy directories.**

In issuing this book the publishers have kept in mind the demand for a book giving all lists required, and nothing more, with the added requirement of giving these lists in a form with the minimum of weight and bulk.

The Knit Goods Trade contains the following departments:

Jobbers of knit goods, telling the kind of goods handled and the name of buyers, with New York address. This department of jobbers gives hundreds of names which have never been listed previously in any textile directory, making the most complete list of jobbers in existence.

New York buyers of knit goods for out of town jobbers and large retailers; buyers are arranged alphabetically, with the jobbers and retailers bought for arranged under the name of the buyer. The arrangement is such that jobbers may easily be distinguished from retailers.

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Department stores and large retailers handling knit goods, with the names of the knit goods buyers and the address of the New York office.

The Knit Goods Trade is bound in cloth with flexible covers. The book is ready for immediate delivery and can be obtained of the publishers, Lord & Nagle Co., 144 Congress St., Boston, Mass. Price $1.00.

Does it pay?

Does it pay to use the product of modern thought? That it does is evident on every hand.

Wyandotte Textile Soda

is a progressive article. To the fact that its work is an improvement on the work of other chemicals is due its success and rapidly increasing popularity.

You are taking advantage of the opportunities offered in other lines, but how about your soda account? If you are not using Wyandotte Textile Soda you are losing advantages which are enjoyed by those who do. We also manufacture Wyandotte Concentrated Caustic Ash, which for some purposes we recommend as strongly as we do Wyandotte Textile Soda for others.

Think it over and we believe you will see the wisdom of asking your supply house to ship you Wyandotte Textile Soda.

Further information gladly given on request.

This Trade Mark Card

in every package.

The J. B. FORD COMPANY, Sole Mfrs, Wyandotte, Mich., U.S.A.

This Soda has been awarded the Highest Prize wherever exhibited.

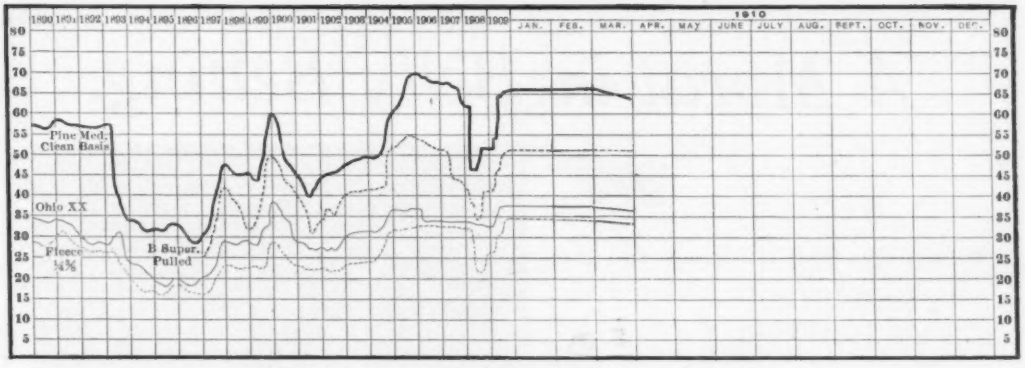


CHART SHOWING RANGES IN THE PRICE OF WOOL TO DATE.

The Wool Market.

Business on worsted wools has been at a standstill with quotations stationary by reason of the firmness of foreign markets and the fact that the stock of foreign wool in this country is in strong hands. Were it not for these two factors there would be a break in the market because there is no domestic demand for worsted wool, and the takings of carded woolen manufacturers are too small to hold up the market. Moreover the carded woolen mills are using a considerable quantity of the finer grades of carpet wool, so that the amount of regular clothing wool used by them is comparatively small. There is very little contracting in the West for wool on the sheep's back, and it is believed that the views of growers and buyers will be so far apart as to result in a large proportion of the new clip being consigned. While public quotations on Western wool have been well maintained, it is reported that some tired owners of wool have cut prices to move the property. These cases are the exception, however, and in the absence of business quotations are largely nominal.

Mill News.

*Tennessee, Ooltewah. About $8,000 has been subscribed toward the $20,000 necessary for the proposed Ooltewah Hosiery Mill. The men interested are all prominent in this vicinity. J. S. Marshall is a merchant of Apison, P. M. Cate is a merchant of this place, A. Green is a large property owner, and T. S. Stoker is cashier of the Ooltewah Bank.

*Virginia, Suffolk. The Bell Hosiery Mills, Inc., are in full operation. Twenty-four knitting machines have been installed and a 50-h. p. boiler and engine form the power equipment. R. H. Rawles is president, and James L. Bell, treasurer, superintendent and buyer.

INVESTIGATE THE ONE DYEING MACHINE THAT DOES PERFECT WORK

The Delahunty

Circulating type of machine for Bleaching Rawstock, Yarns and Warps, Dyeing the Vat Colors, Sulphurs, Indanthrines, Ciba, and Algol Dyes will prove to you, as it has proven to others, that it is the only machine that does perfect work.

DELAHUNTY DYEING MACHINE CO.

General Office, Pittston, Pa. **Southern Agents, Alexander and Garsed.**

A Moral in Belly Belting.

¶ You'll find belting of this sort in your mill. You can't get full power out of a belt that turns up on the edges and transmits with only one side.

¶ There's a solution to this problem.

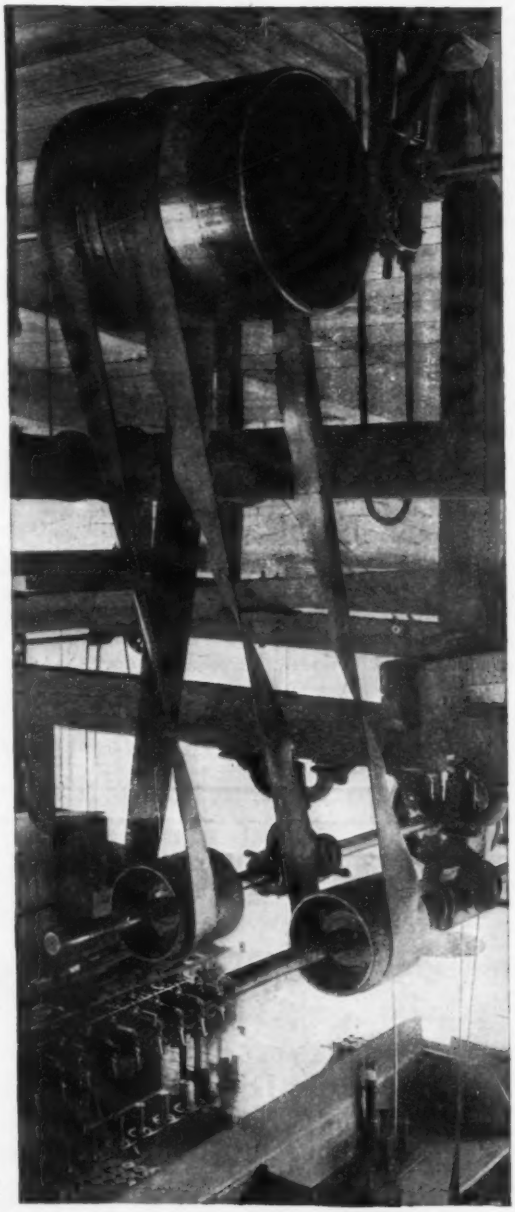
¶ It will take a little time and study on your part—you must learn to know belt values, so that you can protect yourself against deliveries of goods of this character.

¶ Let us be your tutors and show you our specifications for cutting, stretching and currying leather belting.

¶ It will be a revelation to you whether you buy belting from us or not. The knowledge we can give you will protect you. Once you have that knowledge, we ll take our chances for business with the rest.

Send for sample copy of

Phoenix Specifications.



NEW YORK LEATHER BELTING CO.
Main Office, 51 Beekman St., New York.

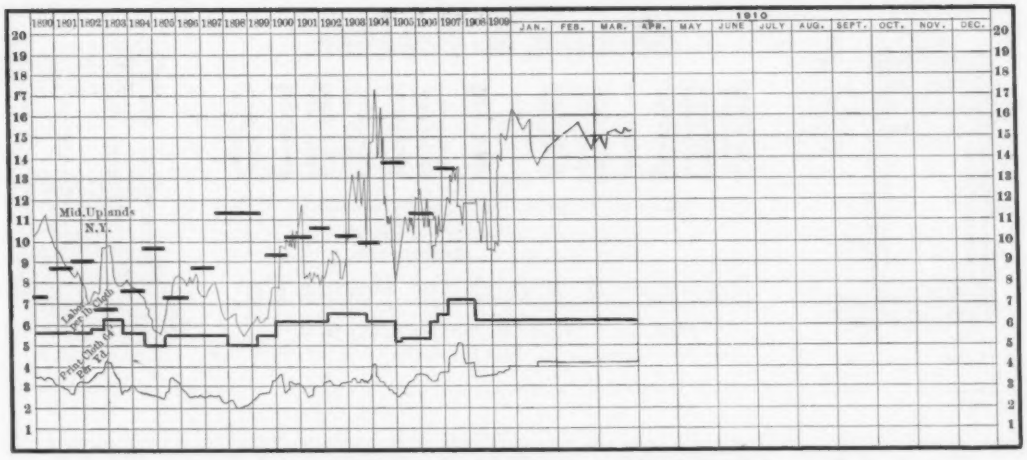


CHART SHOWING RANGE IN THE PRICE OF COTTON TO DATE.

The Cotton Market.

Prices have returned to the 15 cent mark in spite of the general decrease in consumption. This is a year in which the small crop causes the mills to run on short time because of high prices. Reports of short time have affected the market but little, and it becomes plainer as the months pass that the cotton mills are facing a serious shortage in raw material. The prospects of the next crop are causing much anxiety owing to existing conditions, but at this time estimates are of but little value. The movement into sight from Sept. 1 to March 25 is reported by the "Chronicle" for a series of years as follows:

Year.	Bales.
1909-10, Mar. 25	8,980,849
1908-09, Mar. 27	11,618,222
1907-08, Mar. 28	9,746,957
1906-07, Mar. 29	11,783,485
1905-06, Mar. 30	9,189,787
1904-05, Mar. 31	10,420,033

The same authority estimates the world's visible stock on March 25 at 4,229,872 bales, as compared with 5,106,071 bales on the corresponding date in 1909, 4,466,497 bales in 1908, and 5,371,102 bales in 1907.

Mill News.

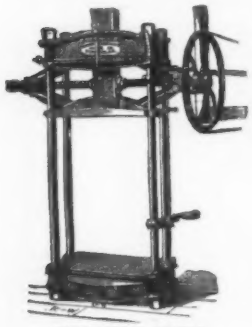
*Pennsylvania, Pottstown. It is reported that the Vaughan Knitting Co., whose mill was recently totally destroyed by fire, will erect a new building on the site which will be considerably larger than the one formerly used by them and in which they will install new and up-to-date machinery for the manufacture of men's seamless half hose.

*Pennsylvania, Royersford. Work has been started on foundations for the new mill of the National Underwear Co. of Spring City. Details of this enlargement were given last December.

Pennsylvania, Waynesboro. J. C. Roulette & Sons contemplate building an addition to their branch mill at this place, which is used only for finishing. The main plant and office is at Hagerstown, Md., where all business is done.

PAPER FOR THE TEXTILE TRADE
Get Samples and Prices
ALBERT A. LANE, 70 Warren St., New York

WEIMAR BROS. MANUFACTURERS OF Cotton Mercerized Tapes,
SPOOL TAPES, BINDINGS AND NARROW FABRICS FOR UNDERWEAR AND OTHER TRADES.
Phone Connections. Works, 2046-48 Amber Street, PHILADELPHIA, PA.



KNUCKLE JOINT

Boomer & Boschert

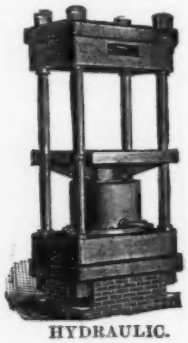
BALING PRESSES

ARE THE STANDARD

Hydraulic or Knuckle Joint
Any Size Any Power

Boomer & Boschert Press Co.

338 West Water S., SYRACUSE, N. Y.
Southern Agent, A. H. WASHBURN, Charlotte, N. C



HYDRAULIC.

GARLAND HARNESSES

ARE BEST FOR

MACHINE DRAWING

Our harnesses are especially well adapted for machine drawing because of the alignment of the eyes and their shape. The eyes always stand square throughout the length of the harness and they are of just the right length and opened just enough to produce the best possible results in machine drawing. Our harnesses are as near perfect for machine drawing as it is possible for a harness to be made.

G TRADE MARK

Garland Mfg. Co. Saco, Me.

Formerly Loom Picker Co., Biddeford, Maine.

LOOK!

THE BRANDEN RUBBER PUMP VALVE
Will Outlast Three Ordinary Valves.

Made for hot or cold water or any fluid where rubber valves are used. By its construction will outlast several ordinary valves. A trial will demonstrate the truth of our statements.

JOHNSTONE BLOW-OFF VALVE. A most durable and useful valve.

Pressure and Vacuum Gages. Pop Safety Valves.
Steam Engine Indicators. Whistles, Lubricators, Etc., Etc.

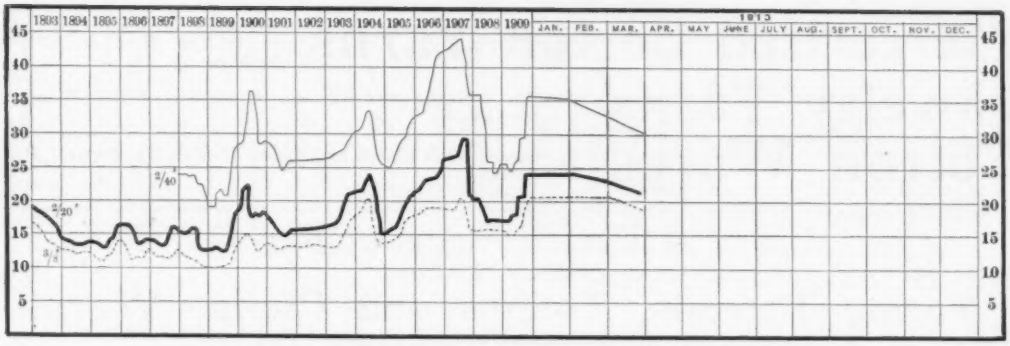
CROSBY STEAM APPLIANCES ARE UNEXCELLED.

CROSBY STEAM GAGE AND VALVE CO.,

Stores: Boston, New York, Chicago, London.

Office and Works: BOSTON, MASS,

Yarn Department.



GRAPHIC CHART SHOWING RANGE IN THE PRICE OF COTTON YARN TO DATE.

Cotton Yarn Market.

The month of March has been very unsatisfactory not only to the yarn merchants, but to the spinners and manufacturers as well. The manufacturer has had little or no demand for his goods, even though prices are based on lower figures than those at which yarns are quoted today should dictate. He has had also, with few exceptions, to face a sympathetic strike, which has either closed his mill or kept him in constant apprehension that it would be closed. A combination of these two conditions does not cause buyers to take an active interest in the purchase of yarns. The recent strike was especially unfortunate for the upholstery mills, as they are at this time getting out their sample fabrics and to go astray in producing them would mean the loss of a season's business. The carpet mills were also seriously affected by this unfortunate condition, as they had but two weeks before adjusted a dispute with their weavers which had closed their mills for nearly five months. The textile workers, however, voted to return to work, and it is the general opinion that the general strike which has been talked of for some time has been averted.

The spinner is facing the problem of high priced cotton and low priced yarn. Middling uplands is selling at 15 cents, while 14s single warps, as an illustration, are selling at 20 cents. There seems to be little doubt but that the spinner is losing money on every pound of yarn he produces and that he would not be running today but for the sake of keeping his organization intact.

The merchant also is competing with the worst competitor possible, having stocks of yarn on hand not only in his warehouse but in the mills of the spinners. Consignments are frequent and spinners in many instances are calling for money regardless of the price which their stocks must bring. This condition on the one hand and indifference on the part of the buyers has forced prices down to the lowest possible figures within a decade, compared with the price of the cotton staple. There is a limit to everything, however, and there seems to be little doubt but that yarns have touched bottom and are ready for a turn.

Knit goods manufacturers are still drawing from contracts previously placed and which will run out in June. Within the next few months a great many of the mills will be apt to buy yarns for fall delivery. Hosiery manufacturers are asking for yarns in coarse numbers with some little business being placed in lots of from five to ten thousand pounds in counts ranging from 10s to 16s at from 21 to 22 cents for 10s. It is impossible to state what the demand will be when the knitter comes into the market for yarns, whether for large or small amounts. We quote as follows:

Eastern Cops.

6s	20½
8s	21¾
10s	22¼
14s	23¼
16s	23¾
18s	24¼
20s	24¾
22s	25¼
24s	25¾
26s	26¼
30s	27
34s	28
36s	29
40s	30

THE J. R. MONTGOMERY CO.,

Windsor Locks, Conn.

MANUFACTURERS OF

Mercerized Cotton Yarns Gives the High Silk-Like Lustre in Knit Goods and Woven Fabrics.

Novelty Yarns Boucle, Bourette and Spirals, in Cotton, Wool, Worsted, Mohair and Silk.

Cotton Warps on Beams, Jack Spools and Tubes. In Fancy, Twist, Colors and Printed.

Greene & Daniels Manufacturing Co.,

Combed, Carded and Gassed

Yarns, Threads, Twines and Chain Warps

Dye Sulphur Blacks Direct in Cops, Cones or Tubes.

Colored and Bleached Yarns Furnished in any manner desired by the trade.

Pawtucket, R. I.

MONUMENT MILLS,

Manufacturers of

White, Colored, Fancy and Double Twist

COTTON WARPS

HOUSATONIC, MASS. 4s to 60s.

WM. C. JOHNSON J. TOWNSEND WALKER

Johnson & Walker

COTTON YARNS

All Nos. and Descriptions

Accounts Solicited

P. O. Box 659 PROVIDENCE, R. I.

27 Exchange St., Rooms 35 and 36

C. MOORE & CO.,

Manufacturers of

TWINES, THREADS AND YARNS

Jacquard Harness Twines of all kinds on hand and made to order.

S. W. Cor. Fifth and Market Sts., Phila.

ELIAS T. VANDEGRIFT

Successor to Ward & Vandegrift

In the Manufacturing of **SPINDLES,**

For Cotton, Woolen, Worsted, Silk and Flax Machinery. Manufacturers and Repairers. Also Flyers, Steel Caps, Bolsters, Steps, Tubes, Etc.

ELMER, SALEM CO., .. N. J.

GRANT YARN CO.,

COMBED AND CARDED COTTON.

YARNS 40's and above. AND

FITCHBURG, MASS. **WARPS**

ESTABLISHED 1885

John Eppler's Machine Works, 629 Filbert St., Phila., Penna.

Manufacturers of

Latest Improved Cop Machinery

of all kinds and

Upright Knitting Machinery for Millinery

Dress and Upholstery Trimmings

JOHN F. STREET & CO.

Cotton Yarns

PROVIDENCE, R. I.

Providence, Chicago, Philadelphia, New York

The Merwin Paper Company

Hartford, Conn.

Press Papers and Fender Boards

Correspondence Solicited

Mills at Rainbow, Conn. Address Inquiries to Rainbow, Conn.

On cones, 3/4c. more up to 14s; 1c. more from 15s to 22s; 1 1/2c. from 23s to 35s, and 2c. above that.

Eastern Two-Ply Skeins, Carded Peeler.

12s	23
14s	23½
18s	24
20s	25
24s	26
26s	27
30s	28
36s	31
40s	34
45s	38
50s	42
55s	47
60s	51

Eastern Two-Ply Warps, Carded Peeler.

2/30s	28
2/36s	31
2/40s	34
2/45s	38
2/50s	42
2/60s	51

Card and Combed Peeler. Reverse Twist 2 and 3 Ply.

Size.	Carded.	Combed.
20s	$0.33	....
24s	.34	$0.50
30s	.40	.53
36s	.45	.56
40s	.47	.58
45s	.50	.61
50s	..	.66
60s	..	.72

The Philadelphia Market.

7s and coarser	20½
8s and 9s	20¾
10s	21
12s	21½
14s	22
16s	22½
18s	23
20s	23½
22s	24
24s	24½
26s	24½
30s	25½
40s	33
50s	41

Southern high grade mule yarn:—

Cones.

10s	22½
12s	23
14s	23½
16s	24¼
18s	24¾
20s and 22s	25¼-25¾
24s	26¼

JAMES E. MITCHELL CO., COMMISSION MERCHANTS
Cotton Yarns
122-124 Chestnut Street, PHILADELPHIA, PA.
Brown Building, 185 Summer Street, BOSTON, MASS.
25 South Tryon Street, CHARLOTTE, N. C.

CATLIN & CO.,
Cotton Yarns.
345 Broadway, NEW YORK.
67 Chauncy Street, BOSTON.
128-130 Chestnut Street, PHILADELPHIA.
605 Medinah Temple, CHICAGO.

William Whitman & Co.,
Commission Merchants
COTTON AND WORSTED YARNS
BOSTON. NEW YORK. PHILA. ATLANTA.
CHICAGO. BALTIMORE. ST. LOUIS. CHARLOTTE.

A. D. Salkeld & Bro.
COMMISSION MERCHANTS
DEP'T FRED'K VIETOR & ACHELIS
Cotton and Worsted Yarns
366 Broadway cor. Franklin St., NEW YORK

Fred Sternberg & Co.
530 Broadway, - NEW YORK.
MERCERIZED TURKEY RED GASSED } COTTON YARNS.

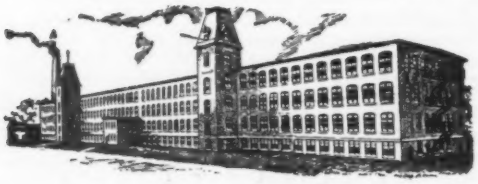
LUDWIG LITTAUER
YARNS
Tram, THROWN SILK, Organzine.
ARTIFICIAL OR WOOD SILK.
Plain, Gassed, Mercerized, Prepared and other Cotton Yarns. Polished and Glazed Threads and Yarns. Mohair and Worsted, Tinsel and Turkey Red Yarns
Best Quality Harness Twine
109 GREENE STREET, NEW YORK
Silk Throwing Mills BOONVILLE and YONKERS, N. Y.
YARNS

T. H. S. CONE, Direct Selling Agent
COTTON YARNS
77 Worth Street, New York, N. Y.
Representing
Norwood Mfg. Co., Norwood, N. C.
Linn Mills Co., Landis, N. C.

LINES WANTED!!!
By a hustling firm to sell on commission from Mills Direct.
Cotton Piece Goods, Cotton Towels, Quilts, Hosiery and kindred lines.
Best Facilities. Fine Show-room.
H. P. Martz, 414 Broadway, New York.

S. T. Crocker, Pres. W. F. Stiles, Treas.

ORSWELL MILLS



Fitchburg, Mass.

Capacity, 45,000 Spindles.

HIGH GRADE YARNS

From Egyptian and Peeler Cottons, Carded or Combed, in Chains and Skeins, on Balls, Beams, Spools, Cops, Cones, Tubes, Single or Twisted.

JENCKES SPINNING COMPANY

PAWTUCKET, RHODE ISLAND

COTTON YARNS

CARDED and COMBED, in Nos. 10 to 120, from PEELER EGYPTIAN and SEA ISLAND COTTONS.
MERCERIZED YARNS, IN SINGLE OR PLY, A SPECIALTY

"A Southern Selling Agency for Southern Spinners."

Cotton Manufacturers' Sales Co.

Statesville, N. C.

COTTON YARNS

SKEINS, WARPS, CONES AND TUBES

Philadelphia Office: 429 Drexel Building

Authorized Capital $100,000

W. A. Dickel, Pres. and Treas.
Samuel Reid, Vice-Pres. and Sec'y.
I. B. Scovill Gen'l Mgr. and Supt.

INDUSTRIAL MILLS CO.

Jasper and Huntingdon Sts., Phila., Pa.

Manufacturers of

NARROW FABRICS

Special Attention Paid to Plain and Fancy

Spool Tapes and Stay Bindings.

Knitting and Weaving YARNS.

Cones, Cops, Warps, Skeins,
Single, Double, Three-Ply, etc.
Peeler, Egyptian, Mixed Colors.
Large Assortment.

EDWARD S. HYDE,

226 CHESTNUT STREET,

Philadelphia, Pa.

Century Cotton Mills

Manufacturers of

Hosiery Yarns

Nos. 10s to 30s Sell Direct

South Boston - - - Virginia

F. W. MAURER & SONS CO.

MANUFACTURERS OF

Fringes, Tapes, Bindings, & Narrow Fabrics

Office and Factory: WAYNE AVE. and BRISTOL STS.
PHILADELPHIA

LINEN YARN IMPORTER.

HUGHES FAWCETT, 115 Franklin St., NEW YORK

Flax, Hemp and Jute Line and Tow Yarns,
For Weaving Purposes.

Linen Jacquard Harness Twines,
Fine Cotton Harness and Heddle Twines,
For Cotton, Silk, Woolen and Carpet Manufacturers.

Correspondence solicited. Samples promptly furnished.

William B. Charles,

Amsterdam, N. Y.

Cotton Yarns, Cotton Cloth, Silesia, Sateens,

For the Underwear Trade.

Lowell Crayons Meet the requirements of any cotton, woolen or worsted mill.

May we send samples? 15 colors and white.

Lowell Crayon Co., Original Manufacturers **Lowell, Mass.**

Trade Mark on every box.

Southern frame yarn, lower grades:—

6s and 8s	20½
10s	21

Eastern cones (high grade quality):—

10s	24
12s	24½
14s	25
16s	25¾
18s	26¼
20s and 22s	26¾-27¼

Skein yarn (mostly Southern):—

4s and 8s soft	20½
10s and 12s	21
14s and 20s	21½-22½
22s	22½
10/2	21½
16/2	21½
20/2	22½
30/2	25
40/2	32
8/2	20
7/6	21

LINEN YARNS.

There is practically no change in the condition of the linen yarn market, the demand for yarn in the home market still continues great and the scarcity of flax, especially in the high grade fibers, makes it impossible for the spinners to ask other than the prices which are now quoted. Business in Philadelphia has been at a standstill owing to labor troubles, which are now practically over, and there has been very little business secured from mills using this grade of goods:

Linen Knitting yarns.
("A" Quality.)

35s Lea on cones	80-85
50s Lea on cones	90-95
60s Lea on cones	95-1.00
80s Lea on cones	1.00-1.10
90s Lea on cones	1.15-1.20
100s Lea on cones	1.25-1.30
110s Lea on cones	1.45
120s Lea on cones	1.60

Mill News.

*Georgia, Cornelia. Tht residents of Cornelia are subscribing liberally to the stock of the proposed cotton company, and it seems probable the effort to locate a mill here will be successful.

*Georgia, Monticello. It is said that work will soon be started on the proposed $200,000 cotton mill to be located just outside the city limits of Monticello.

North Carolina, Sanford. Extensive improvements are planned by the Sanford Cotton Mills.

TEXTILE MACHINE WORKS
THUN & JANSSEN, READING, PA.
Manfrs of BRAIDING MACHINES
for making Dress Trimming Braids, Cotton Tapes, Underwear Braids, Shoe Laces, Spindle Banding, etc. Winders, Doublers, Measuring Machines, Reelers, Singeing and Finishing Machinery, Special Machinery.

BOSTON MASS. BRADFORD ENG.
RICHARDS, ATKINSON & HASERICK
IMPORTERS
TEXTILE MACHINERY
MILL SUPPLIES
EGYPTIAN COTTON
PHILADELPHIA OFFICE "THE ARCADE"

The Bradley Stencil Machine
Makes stencils in half a minute at reduced cost of 1-10 cent each. Write for catalogue and price list.

A. J. BRADLEY
In universal use by thousands of manufacturers and shippers.
Also manufacturers of Oil Stencil Board. Write for prices and samples.
101 Beekman St.
New York, U.S.A.

You Save Enough Insurance to Pay for the Equipment.
So it costs you NOTHING to have the AMERICAN WATCHMAN'S CLOCK. Fully approved by all insurance companies. We equip factories with Fire Alarms, Signals, etc., also Employes's Time Recorders, and Telephone Systems. Electric Time System consists of Master Regulator in office with secondary electric clocks throughout the mill, insuring accurate time. Send for particulars.
Pettes & Randall Co., 150 Nassau St., New York

TEXTILE MANUFACTURERS ! ! ! ASK ABOUT OUR NEW
HYDRAULIC TESTING MACHINE
For testing the strength of Cloth, Paper, or any material you wish to know the strength and elasticity of.
We also manufacture WARPERS and BEAMERS for Ribbons, Tapes and All Narrow Goods
C. H. KNAPP, Wait and Rye Streets, PATERSON, N. J.

F. C. BARTON
65 Worth Street, New York
MANUFACTURER OF
"LILY" BRAND NARROW FABRICS
WEB, TAPE, BINDINGS, ETC.

THE BIAS NARROW FABRIC CO.
F. C. BARTON, President
65 Worth Street, New York
Bias and Straight Cut Fabrics and Ribbons.
Embossing and Cutting Customers Own Goods a Specialty.

Pocasset Worsted Company,

Worsted Yarns.

BOSTON
100 BOYLSTON STREET
TELEPHONE 19 OXFORD

NEW YORK
45 EAST 17TH STREET
UNION SQUARE

H. HODGSON, Pres. & Treas. FRED HODGSON, Gen. Mgr.

QUEENSBURY MILLS

Mohair, Lustre and Worsted Yarns

—Single and Two Ply—

Grey—Colors on Mixtures Worcester, Mass.

Woolen and Merino YARNS

Eaton Rapids Woolen Mills,

EATON RAPIDS, MICH.

William B. Charles,

Amsterdam, N. Y., U. S. A.

Cotton and Wool Wastes

COTTON YARNS

Contracts made with Cotton and Woolen Mills for Yearly Waste Production. Correspondence solicited. Shepperson's Code, 1878. Cable Address "Charles."

Established 1844.

BENJ. BUCKLEY'S SON,

(WM. J. BUCKLEY) *Gun Mill, Paterson, N. J.*

Manufacturer of all kinds of SPINDLES, FLYERS, RINGS, TUBES, CAPS, etc., for Cotton, Silk, Flax, Woolen and Worsted Machinery.

Roving Spindles and Flyers a Specialty. Light Forgings.

REPAIRING OF ALL KINDS.

EDWIN F. SCHOFIELD

Cotton Waste

IMPORT and EXPORT

45 S. 3rd St. Philadelphia

C. M. BLAISDELL, Pres. and Treas. G. A. BLAISDELL, Vice-Pres. and Sec'y.

Established 1860—Incorporated 1893.

THE S. BLAISDELL, JR., CO.,

COTTON, EGYPTIAN PERUVIAN

American Long Staple a Specialty. Shipments direct to mill from Egypt, Peru and all American Southern Points.

CHICOPEE, MASS.

Cotton Waste Purchased on Yearly Contract from Mills.

THE FARRISH-STAFFORD CO.,

Cotton Yarns and Piece Goods

ALL NUMBERS YARN CARDED AND COMBED

Gassed and Mercerized Yarns

57-59 Worth St., New York.

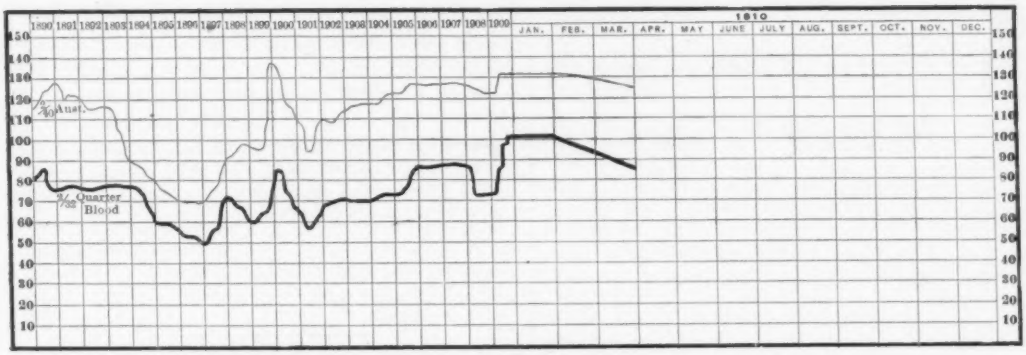
31 Bedford St., Boston 242 Chestnut St. Phila. 332 Medinah Temple, Chicago

Reels for Cotton WOOLEN AND WORSTED

Patented Hosiery Winders, Cop Winders and Spoolers.

LINDSAY, HYDE & CO.,

2124 to 2130 East York St., PHILADELPHIA, PA.



GRAPHIC CHART SHOWING RANGE IN PRICE OF WORSTED YARN.

The Woolen and Worsted Yarn Markets.

The recent strike in Philadelphia, which is now practically over, has had the tendency to make a dull market much worse than it should be at this time. Spinners of both French and Bradford yarns are only fairly busy; what business they have been getting from the weaving trade is for small lots only and manufacturers are showing much more interest in stock lots than they are in placing larger orders. The scarcity of orders has had a tendency to make prices react. Spinners in order to get business to keep their spindles running and pay expenses are offering all kinds of prices to keep their plants going.

The season for men's wear in worsteds for 1910 is now past and manufacturers are sampling for the spring of 1911, with indications pointing to a good business. What business they are placing is on counts from single 16s to single 24s and from 2/24s to 2/36, but what the size of the orders from this trade will be cannot be conjectured at this time.

The dress goods weaver has practically closed on spring goods and is now getting ready for fall lines and is placing sample orders with spinners for small lots in counts from single 27s to single 45s and in two plys from 40s to 60s.

WOOLEN AND MERINO YARNS.

Spinners of woolen yarns are still busy. There is not much business as yet coming from the weaving trade, but they are asking for sample lots. Spinners cannot prophesy what the orders will be from this trade as the manufacturers are now working on samples for the spring of 1911 and will not know what the demand will be on them until their orders begin to come in. The knitting trade in the sweater and fancy knit goods line still continue to place orders, and while prices remain generally unchanged, there has been an advance of about 5 cents a pound on both 2/25 cut light grey mixed all wool and bleached all wool, which are now selling at 95 cents and $1.00 respectively. Existing conditions point to a further advance along all lines due not only to the demand but on account of the high prices of raw stock.

BRADFORD SPUN YARN.

2/16 Ingrain (black)	50
2/16 Ingrain (light grey)	51
2/16 Ingrain (white)	52
2/12 to 2/16 low common	68-70
2/12 to 2/20 1/4 blood	72-78
2/20 to 2/24 1/4 blood	83-85
2/26 to 2/28 1/4 blood	87-90
2/32 1/4 blood	85-90
2/20 3/8 blood	92
2/26 3/8 blood	95
2/30 3/8 blood	99
2/36 3/8 blood	1.00
2/40 1/2 blood	1.15
2/40 delaine	1.20-1.22½
2/50 delaine	1.22½
2/40 Australian	1.30
2/50 Australian	1.37½
2/60 Australian	1.50-1.52½
2/24 luster	90
2/28 luster	93
2/30 and 3/32 luster	95-97
2/36 luster	95-97½
1/24 worsted and 80s single cotton for raincloths	90
1/24 worsted and 120 single cotton for raincloths	1.20

FRENCH SPUN YARN.

1/20 1/4 blood	87
1/20 high 1/4	90
1/20 1/2 blood	96
1/20 3/8 blood	1.00
1/30 high 1/4 blood	1.00-1.02½
1/30 3/8 blood	1.12
1/30 1/2 blood	1.15
1/40 1/2 blood	1.16
1/50 delaine	1.26
1/40 Australian	1.27

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High efficiency in textile manufacturing requires the broadest possible basis on chemical and engineering science.

Every step in textile work involves one or more continually recurring and changing problems; and these demand expert, scientific analysis. These problems cover an exceedingly wide range, from the economic selection and use of fuels, lubricants and boiler compounds, to that of materials for bleaching, sizing, finishing, mercerizing, etc.

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A series of "Professional Papers," by members of our staff and covering certain special problems of industrial efficiency, is being issued in pamphlet form, and will be sent to manufacturers on request.

1/50 Australian			1/36
1/60 Australian			1.45
1/70 Australian			1.50-1.52½

WOOLEN AND MERINO YARNS.

Cut	Wool	Cotton	
2/20 Light Grey Mixed	80%	20%	58
2/20 Light Grey Mixed	90%	10%	62
2/20 Light Grey All Wool			65-70
2/20 Colored All Wool			70
2/20 Bleached	80%	20%	67½
2/20 Bleached	90%	10%	72½-75
2/20 Bleached All Wool			80-85
2/25 Light Grey Mixed All Wool			95
2/25 Bleached All Wool			1.00

Personals.

J. F. Miller has accepted the position as overseer of carding at the Merchants No. 1 and 2 mills, Fall River, Mass. He was formerly engaged at Danielson, Conn.

Charles A. Steele, Jr., formerly loom fixer at the Hadley Mills, South Hadley Falls, Mass., has resigned to accept a position as overseer of weaving at the White Valley Mills, White Valley, Mass.

Wm. Barratt has accepted the position as overseer of spooling, warping and slashing at the Dartmouth Mfg. Corporation, New Bedford, Mass. He comes from Pawtucket, R. I.

Jos. Keighley, superintendent of Crawford & Tyler's Mill, North Dana, Mass., has severed his connection with that company.

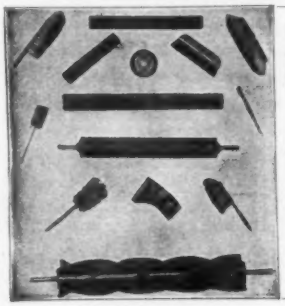
J. G. Berry, superintendent of the Newton Hosiery Mills, Newton, N. C., has resigned to accept a similar position with the Hosiery mill at Drexel, N. C.

F. C. Henderson has accepted the position as overseer of spinning at the Opelika Cotton Mills, Opelika, Ala.

Furman Lancaster has accepted the position as overseer of a small knitting mill which the Excelsior Mills, Union, S. C., have installed at Jonesville, S. C.

J. H. Lancaster has accepted the position as overseer of carding at the Cedartown Cotton Export Mill, Cedartown, Ga. He comes from Alexander City, Ala.

R. G. See of the firm of See & Sheehan, silk dyers of Paterson, N. J., died of heart disease at his residence, 422 Ellison St. He leaves a wife and two children.



S. R. MASON, Treasurer

MASON BRUSH WORKS

Mill and Machine Brushes

Repairing a Specialty.

Worcester, Mass.

The Rag and Shoddy Market.

No improvement in business has been noted in the rag and shoddy market. Spinners are buying in a very conservative manner, leaving dealers to carry the stocks. There is fear on the part of many that prices may be lower before they are much higher, although there is nothing in the wool or goods market to warrant such a conclusion. That the sentiment exists, however, is beyond question and spinners are buying from hand to mouth. Worsted waste is in small supply with prices well maintained. Poor business in worsted spinning mills is resulting in a reduction of the quantity of by-products. The demand, however, is as strong as ever and as a result prices on this class of stock are firm. We quote as follows:

SHODDIES AND EXTRACTS.

White yarn, best all wool	46-51
White knit, all wool, best fine	37-40
White knit, No. 2	33-38
Light yarn, extra fine	34-36
New pure indigo blue	30-32

Merino.

Fine light, all wool	26-31
Medium light, all wool	17-20
Fine black, all wool	27½-28
Fine dark, all wool, best grade	20-23
Medium dark, all wool, No. 2	16-17
Red Knit Stock, strictly all wool	22-25
Red flannel, all wool	25-27
Dark blue for hosiery, strictly all wool, No. 1	20-23
Dark blue for hosiery, not all wool, No. 2	17½-20

WOOLEN RAGS.

Fine merchant tailors	9-12
Choice light colors	15-17
Browns	11-14
Blacks	7
Blues	10-12
Fine dark	9-12
Medium dark	6-8

Worsteds.

Blue	13-14
Black	18-19

Serges.

Black	13½
Blue	15

Flannels.

New scarlet	20-22
New blue	14
Cloakings	4-6½

SOFTS AND KNIT STOCK.

Soft woolens, best	5-7
Old white flannels	12-14
Old red flannels	12-13
Old blue flannels	5-8
Old plaids	7-10
White stockings	21-23
White hood stock	20-24
Clear hoods	10-12

Facts and Gossip.

Delaware, Wilmington. The Rising Sun Knitting Co. has bought the property it occupies on Conrad St., between Adams and Jackson Sts., for $12,000.

Georgia, Columbus. The Topsy Hosiery Mills, recently purchased from Ely & Walker Dry Goods Co. by G. Gunby Jordan, J. D. Massey and R. C. Jordan, will probably be consolidated with the Perkins Hosiery Mill.

Iowa, Des Moines. It will be fall before the Guaranty Hosiery Mills can repair the damage caused by the recent fire. They will probably build a new mill.

Massachusetts, Ipswich. The lower mill of the Ipswich Mills is to be used for a warehouse and in the near future all the manufacturing will be done in the upper mill.

Massachusetts, Mattapan. The Peerless Knitting Mills Co. has succeeded the Peerless Union Underwear Co. There is no change in the officers or plant. The capital stock is $100,000. Robt. A. Scott is president; R. E. Paine, treasurer, and J. S. Cook, superintendent. Thirty-five knitting machines and 40 sewing machines are operated on men's, women's and children's union suits, giving employment to about 100 hands. 1/9s to 1/60s Peeler and Egyptian yarns are bought.

*Massachusetts, Northampton. Owing to the illness of D. D. Evans of Springfield, who is promoting the proposed new silk hosiery mill, the work of soliciting subscriptions will be suspended temporarily. It is stated, however, that there has been subscribed up to the present time sufficient stock to justify the organization of the company.

New York, Broadalbin. If the stockholders of the Broadalbin Knitting Co., Ltd., vote to increase the capital stock from the present capital of $75,000 to $150,000 at the meeting to be held April 19, they will build a large addition, as their business is very largely increasing and has outgrown the present quarters. They do not anticipate, however, making this increase the present season. D. D. Crouse is president and treasurer and B. C. Smith is secretary and superintendent. They manufacture cotton, wool and fleeced-lined underwear, overshirts, jersey cloth and glove linings.

New York, Brooklyn. The Albion Knitting Mills have been incorporated with capital stock of $5,000 by Harris Tow, 12 East 127th St. and David Jacobson, 1827 Washington Ave., New York. Harris Tow, one of the incorporators, is a jobber of knit goods at 125 Greene St.

*New York, Catskill. The Union Mills advise that they will put the Wiley Mfg. Co.'s plant in operation, but cannot give any further particulars at this time.

Why You Should Let Us Spin Your Silk Yarns

We have every facility for immediately meeting your needs, whether for yarns in the Gray or Dyed, on Spools or on Cones, Warped or in the Hank; and for Organzines, Trams and Singles. Your specifications will be accurately followed to the smallest detail.

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Silks and silk mixture goods made to order for special uses, electrical and insulation purposes, etc.

These goods are standards: Cheney Dress and Lining Silks, Foulards, "Showerproof" Foulards, Millinery and Knitting Silks, Satins, Velvets, Plushes, Silk and Velvet Ribbons, Wash and Underwear Ribbons, Cravats, Decorative and Upholstery Goods.

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HIGHEST QUALITY

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Not Gum, But Sixteen Ounces Silk.

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The Silk Market.

There is little or no change in the raw silk market in New York since our last report. Manufacturers are buying but little and that for immediate use. Trams and organzine are still in no demand, and as the spring season is over there will be but little business done before April or May. The throwsters are still looking for business and find but little. The European market at this writing is still very weak, with no immediate prospect of a revival of business. The prices for Japan silk remain about the same as last writing. The market is very quiet with occasional attempts to sustain values, which so far have been unsuccessful, owing to the manufacturers continuing dull and remaining on part time. The ribbon manufacturers this season have been the principal sufferers, owing to the styles worn. In the broad silks there has been quite an active business, except in foulards, which have not taken as well as the trade had thought that they would. There are to be a number of new novelties put on the market in the fall, and on these a good price will be maintained. This it is hoped will have a tendency to create a firmer market, but even this condition is not expected before the last of April or the middle of May. In Europe the situation is about the same as the season is practically over. There is still plenty of silk to be had, but as long as business remains dull the supply will more than fill the demand, and under such conditions prices will remain the same, with

(Continued on page 212.)

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but little activity in the market. The following prices are current about April 5th.

European.

Extra Classical Italian Piedmont	4.25-4.30
Extra Classical Italian	4.05-4.10
Classical Italian	3.85-3.87½
Best No. 1 Italian	3.80-3.85

Sixty days' basis.

Japan.

Filature Kansai Extra Extra	3.85-3.90
Filature Kansai Best Extra	3.75-3.80
Filature Kansai Extra	3.60-3.65
Filature Kansai Best No. 1 Extra	3.55-3.60
Filature Kansai No. 1	3.45-3.47½
Filature Shinshu Extra	3.60-3.65
No. 1	3.42½-3.45
Rereels No. 1	3.55-3.57½
Rereels No. 1½	3.45-3.47½
Rereels No. 2	3.22½-3.35
Canton Filature Extra Extra A 14/16	3.10-3.15
Canton Filature Extra Extra B 14/16	2.95-2.97½
Canton Filature Extra 14/16	2.85-2.90
Canton Rereels Selected Nos. 1-2	2.60
Canton Rereels Ordinary Nos. 1-2	2.45

China.

China Steam Filature 1st Grade	4.20-4.25
China Steam Filature 2d Grade	3.80-3.85
Tussah Best Chops 8 Cocoons	2.25
Tsattle Blue Dragon	3.05-3.10
Tsattle Kun-Kee Mars No. 1	2.40-2.42½

The demand for spun silk never was better in the history of the trade. One of the largest manufacturers of spun silk said today that it was impossible to keep pace with his orders, and none are taken for delivery under sixty days. The advance in prices, however, which was looked for at our last writing did not materialize and at the present time no rise in prices is looked for. The prices remain the same as last report:

60/2	3.25
50/2	3.10
40/2	3.00
30/2	2.85
20/2	2.75
10/2	2.65

For second quality the price remains an average of 20 cents a pound less. Terms less 6 per cent., 10 days, or 5 per cent., 30 days.

MILL NEWS.

Wisconsin, Appleton. The Fox River Valley Knitting Co. has increased its capital stock from $50,000 to $100,000 and ordered automatic hosiery machines.

*Wisconsin, Delavan. A new power house and central heating plant, 40 by 60 ft., to be equipped with automatic sprinklers, is being built for the Bradley Knitting Co., and will complete the extensive improvements which this company planned several months ago. The old mill is now 50 by 275 ft., 2 stories and basement. A concrete warehouse has been built, 64 by 112 ft., with three floors, and the equipment has been increased to 120 knitting machines and 50 sewing machines.

*Wisconsin, Janesville. The finishing room of the Lewis Knitting Co.'s new mill is ready for occupation.

Wisconsin, Manitowoc. It is understood that H. Zannacker, treasurer of the Manitowoc Knitting Co., which recently removed to Two Rivers, will remove the plant back to Manitowoc and operate it under the name of the Zannacker Knitting Mills Co. Quarters have been leased in the Schmidtman Building at 14th and Washington Sts., and the business will be run on a larger scale.

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Also Power Transmission Supplies for General Mill Use.
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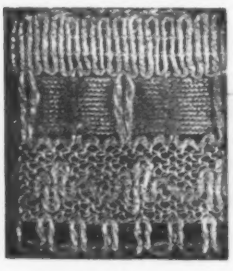

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BRAIDS Cotton, Worsted, Mercerized, Cotton and Silk Twilled.
TAPES Common, Twilled, Superfine and Plain 18 to 358, white and colors on spools.
YARNS Cops, Skeins, Warps, Tubes and Cones.
THREADS on Spools, Tubes, Cones, Unbleached Bleached and Colors for Manufacturers' use.
CROCHET LACE EDGINGS Latest Styles in Pant Laces.
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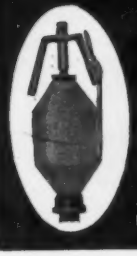

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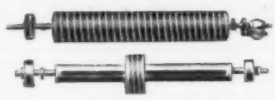

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ASSETS January 1, 1910	$27,307,672
LIABILITIES (Including Capital)	14,924,835
RESERVE AS A CONFLAGRATION SURPLUS	1,200,000
NET SURPLUS OVER ALL LIABILITIES AND RESERVES	11,182,837
SURPLUS AS REGARDS POLICY-HOLDERS	15,382,837
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Acids.

Acetic, 100 lbs.	2.25-2.50
Citric, domestic	39-50
Oxalic	7-8½
Sulphuric, 66°, 100 lbs.	1.00-1.10
Muriatic, 18°	1.15-1.30
Tartaric crystals	26-28½

Miscellaneous Chemicals and Dyestuffs.

Acetate of lime, gray, 100 lbs.	2.00-2.05
Alum, lump	1.70-1.85
ground	1.80-2.00
powdered	3.00-3.25
Aqua ammonia, 26°	3-6
Ammoniac, sal, gray	
Borax, bbls.	4-7½
Brimstone, crude, ton	27-51
Copperas	66-80
Cream tartar, crystals	23
Fuller's earth, powdered, ton	21-23
Glauber's salt	75-80
Potash, chlorate, crystals	8½-10
powdered	10-13
carbonate	5-8
Soda, bicarbonate	1.10-1.50
Soda, caustic, domestic, 60 per cent.	1.77-1.90
Sal., American	71-85
Vitriol, blue	5-8
Acetate of soda	4-8
Acid, picric, best crystals	26-50
tannic, commercial	30-41
Albumen, egg	61-70
blood	25-35
Alizarine, red	19
Aniline, oil	10-13
salt crystals	14
Bichromate of potash, American	8-11½
Bichromate of soda	8-12
Bisulphite of soda	3-5
Cutch, mat	5-8½
Dextrine, imported potato	6½-9½
Divi-divi, ton	40-42

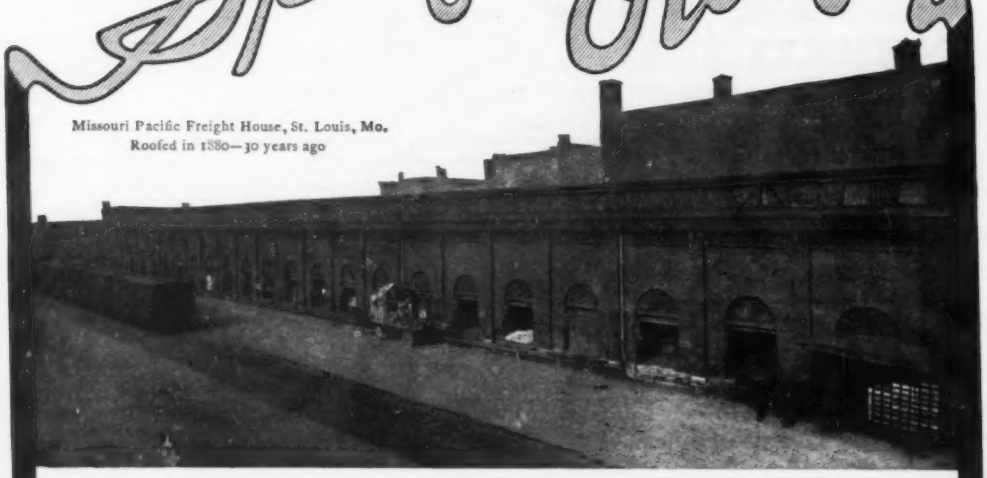
Facts and Gossip.

*New York, Greenwich. Whatever is done by the Jesse V. Palmer Co., Inc., in the way of forming a connection in the South with a yarn mill, will not be done in the near future, but some time beyond the present year. It was reported early in the month that the Jesse V. Palmer Co., Inc., was negotiating for a lease of the Tennile Yarn Mills, Tennile, Ga., and would remove from Greenwich or establish a branch plant in the South.

New York, Utica. It is reported that the Fort Schuyler Knitting Co. have bought land on Kimble St. and will build a mill soon. The company's present quarters are at First and Jay Sts.

*North Carolina, Cooleemee. It is not certain that J. M. Greenfield of Kernersville will remove his hosiery plant to Cooleemee. There is some foundation for the report, as Mr. Greenfield is considering the proposition, but a definite decision has not been made at this date.

Barrett Specification Roofs



Missouri Pacific Freight House, St. Louis, Mo.
Roofed in 1880—30 years ago

Make Your Specifications Exact

THERE are a number of ways to lay a roof of coal tar pitch, tarred felt and gravel so as to give fairly good service. There is one way, however, of laying such a roof to give *maximum service*—by that we mean a service of 20 years and over—order your contractor to lay it "according to The Barrett Specification" and *incorporate the full Specification in the contract.*

A roof so laid has no superior. In fact, no other approaches it in point of economy. There may be other good methods. The one suggested is *absolutely certain.* It insures workmanship that is efficient, the use of materials of the highest grade, and results that are inevitable.

Accordingly, do not order on your new building "a gravel roof" or a "pitch and gravel roof," but state that the roof shall be laid "according to The Barrett Specification." Then you know what you are getting. The chances are if you have a first class contractor he will follow the Specification anyway. But if you follow our suggestion, *there will be no question about it.*

Copy of The Barrett Specification sent free on request to anyone interested.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland
Pittsburg Cincinnati Kansas City Minneapolis New Orleans

TRADE B MARK

Mill Stocks.

FALL RIVER MILLS.

	Bid.	Asked	Last Sale.
American Linen Co.	116	118½	118
Arkwright Mills	110½	112	...
Barnard Mfg. Co.	115	...	115
Bourne Mills	107½	...	...
Border City Mfg. Co.	...	150	...
Chace Mills	...	145	...
Cornell Mills	215	225	...
Davol Mills	...	105	...
Davis Mills	...	125	124
Flint Mills	105	*106	103
Granite Mills	148	150	150
Hargraves Mills	127	130	...
King Philip Mills	180	180	178
Laurel Lake Mills	185	195	...
Lincoln Mfg. Co.	...	95	...
Luther Mfg. Co.	180	...	...
Merchants' Mfg. Co.	107½	110	108½
Mechanics' Mills	105	107½	105
Narragansett Mills	140	145	...
Osborn Mills	120	121	120½
Parker Mills	120	125	...
Pocasset Mfg. Co.	...	148	...
R. Borden Mfg. Co.	...	...	...
Sagamore Mfg. Co.	185	...	...
Seaconnet Mills	...	97	...
Shove Mills	...	...	108½
Stafford Mills	108	110	107
Stevens Mfg. Co.	...	112½	...
Tecumseh Mills	...	140	135
Troy C. & W. Mfy.	...	...	...
Union Cotton Mfg. Co.	...	...	...
Wampanoag Mills	107½	110	...
Weetamoe Mills	100	102	100

* New stock.

NEW BEDFORD MILLS.

Reported by Sanford & Kelley.

	Par.	Bid.	Asked.
Acushnet Mills	100	360	400
Bristol Mfg. Co.	100	153	...
Butler Mills	100	†162	...
City Mfg. Co.	100	267	270
Dartmouth Mfg. Co.	100	310	...
Gosnold Mills, pfd.	100	109	112
Grinnell Mfg. Co.	100	230	...
Kilburn Mills	100	142½	...
Manomet Mills	100	...	135
Nonquitt Spinning Co.	100	127¾	128
Pape Mfg. Co.	100	†125	...
Pierce Mfg. Co.	100	450	500
Potomska Mills	100	137	188½
Soule Mills	100	...	169
Taber Mills	100	130	135
Wamsutta Mills	100	*140	...
Whitman Mills	100	195	200

† Ex rights. * Ex dividend.

OTHER NEW ENGLAND MILLS.

Furnished by H. C. Wainwright & Co., 60 State Street, Boston

	Par Value.	Last Sale.
Amoskeag Mfg. Co., N. H.	100	305
Androscoggin Mills, Me.	100	205
Appleton Co., Mass.	100	152½
Arlington Mills, Mass.	100	145½
Atlantic Cotton Mills, Mass.	100	82
Bates Mfg. Co., Me.	100	265
Bigelow Carpet Co., Mass.	100	155
Booth Cotton Mills, Mass.	100	98⅛
Boston Duck Co., Mass.	700	1325
Boston Mfg. Co., Mass.	100	105¼
Babot Mfg. Co., Me.	100	100
Chicopee Mfg. Co., Mass.	100	130½
Continental Mills, Me.	100	113
Dwight Mfg. Co., Mass.	500	1200
Edwards Mfg. Co., Me.	100	98
Essex Co., Mass.	100	190
Everett Mills, Mass.	100	140
Fisher Mfg. Co., Mass.	100	121½
Franklin Co., Me.	100	130
Great Falls Mfg. Co., N. H.	100	203
Hamilton Mfg. Co., Mass.	1000	815
Hamilton Woolen Co., Mass.	100	95¼
Hartford Carpet Co., com., Conn.	100	40
Hartford Carpet Co., pfd., Conn.	100	110
Hill Mfg. Co., Me.	100	117
Jackson Co., N. H.	1000	1000
Lowell Bleachery, Mass.	100	196¼
Lowell Hosiery, Mass.	100	51
Lyman Mills, Mass.	100	125⅝
Massachusetts Cotton Mills, Ga.	100	130
Massachusetts Cotton Mills, Mass.	100	139½
Merrimack Mfg. Co., com., Mass.	100	53¾
Merrimack Mfg. Co., pfd., Mass.	100	93
Middlesex Co., Mass.	100	50
Monadnock Mills, N. H.	1000	1002½
Nashua Mfg. Co., N. H.	500	652½
Naumkeag Steam Cotton Co., Mass.	100	150
Newmarket Mfg. Co., N. H.	100	1263¼
Otis Mfg. Co., Mass.	1000	1852½
Pacific Mills, Mass.	1000	3330
Pepperell Mfg. Co., Me.	100	315
Plymouth Cordage Co., Mass.	100	247
Salmon Falls Mfg. Co., N. H.	300	275
Shaw Stocking Co., Mass.	100	124
Suncook Mills, N. H.	100	100
Thorndike Mfg. Co., Mass.	1000	1200
Tremont & Suffolk Mills, Mass.	100	140⅝
Waltham Bleachery & Dye Works, Mass.	100	133
York Mfg. Co., Me.	100	140

SOUTHERN MILLS.

Furnished by Hugh MacRae & Co., Wilmington, N. C.

	Bid.	Asked.
Abbeville Cotton Mills, S. C.	70	71
Aiken Mfg. Co., S. C.	...	85
American Spinning Co., S. C.	155	...
Anderson Cotton Mills, S. C.	56	58
Arkwright Mills, S. C.	100	103
Augusta Factory, Ga.	65	70
Avondale Mills, Ala.	120	125
Belton Mills, S. C.	125	...
Bibb Mfg. Co., Ga.	...	114
Brandon Mills, S. C.	98	100
Cabarrus Cotton Mills, N. C.	125	145
Chadwick Hoskins Mfg. Co., N. C.	100	...
Chadwick Hoskins Mfg. Co., pfd., N. C.	101	...
Chiquola Mfg. Co., S. C.	170	...
Clifton Mfg. Co., S. C.	105	110

(Continued on page 220.)

The WM. H. LORIMER'S SONS CO.,

Manufacturers of

MERCERIZED YARNS

FOR ALL PURPOSES.

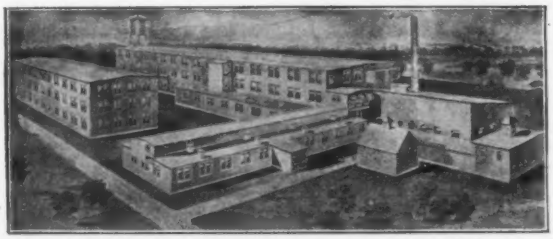
MERCERIZERS AND DYERS.

New York Office:
Room 911 New York Life Building,
346 Broadway.

Ontario and Lawrence Sts.,
PHILADELPHIA, PA.

PETER B. MCMANUS, Pres. and Treas. EDWARD J. MCCAUGHEY, Secy. and Mgr. JOHN MCMANUS, Vice-Pres.

HOME BLEACH AND DYE WORKS, Inc.



Dyers, Bleachers and Mercerizers of

Cotton Yarns

in skein, and long and short

CHAIN WARPS

Fast Colors a Specialty.

Daily Capacity 30,000 lbs.

Fast Colors and Black for Worsted Trade.

Office and Works, Pawtucket, R. I.

Established 1881.

GLOBE DYE WORKS CO.,

Successors to R. Greenwood & Bault

DYERS BLEACHERS AND **MERCERIZERS**

OF COTTON WARPS AND SKEIN YARNS

Globe Bleach and Dye Works,
Oxford and Worth Sts., Frankford, Pa.

140 Chestnut St., PHILADELPHIA.

JOHN F. DAVIDSON, Orianna Bleach Works

BLEACHER

Of Turkish Towels, Cotton Yarns, Underwear and Tapes

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Office, 2557 Orianna Street, Correspondence Solicited

THE PEERLESS COMPANY,
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Dyers of Skein Silk

FOR ALL TEXTILE PURPOSES

Fast Colors on Silk for Worsted Manufacturers.
Pure Dye and Weighted. Bright and Souple.
Dyers of Peerless Black on Artificial Silk.

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Bleachers and Dyers of COTTON YARNS and STOCKINET

Office with Blodgett & Orswell Co., Manufacturers of Glazed Yarns.

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The Western Thread Co.

COTTON AND MERCERIZED DYEING AND BLEACHING
CONE AND TUBE WINDING

21st Street and Marshall Boulevard, CHICAGO

FIRTH & FOSTER CO.

Dyers and Finishers

York, Emerald and Adams Sts., Philadelphia, Pa.

New York Office, Silk Exchange Bldg., Cor. Broadway and Broome Sts.

Dyeing and Finishing of Piece Goods Exclusively, such as Wool Armures, Prunellas, Satins and Henriettas, Panamas, Poplins, Serges and Cheviots. Mohairs, Bradford Finish, in Fancy and Solid Colorings. Also Suitings and Cloakings.
Specialty in the Treating of Silk and Wool Fabrics, such as Eoliennes, Crepes and Henriettas and all high class wool tissues like Batiste, Voiles and Foules. Also, Cotton and Wool Goods, Mohair Linings and Lastings.

SPECIAL ATTENTION IS GIVEN TO THE REDYEING OF ABOVE

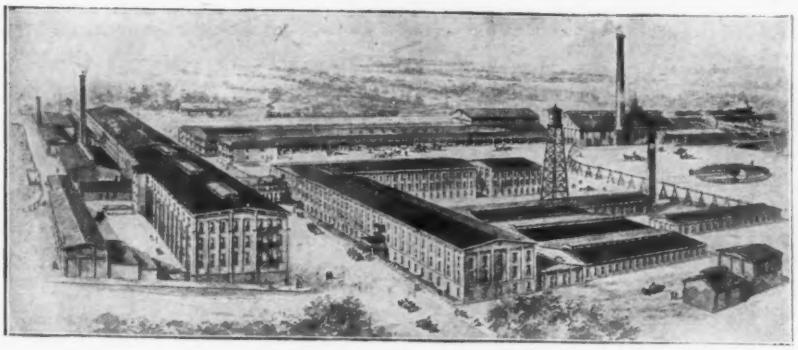
UTICA WILLOWVALE BLEACHING CO.

Sheetings, Shirtings, Lawns, India Linons. Everything in White Goods.

John MacManus, Superintendent.

CHADWICKS, N. Y.

Standard Bleachery Co., Carlton Hill, N. J.



CAPACITY 500,000 YARDS DAILY.

With our enormous facilities we are able to meet all demands promptly.

Piece Mercerizing.

Bleaching, Dyeing and Finishing.

Fine Cotton Goods and Embroideries.

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51 AND 53 FRANKLIN STREET, NEW YORK

PAPER AND TWINE MERCHANTS

FOR FINISHERS OF TEXTILE FABRICS

"ROYAL" PRESS PAPERS

RHOADS LEATHER BELTING.

In machine shops belts are subject to exacting work, and by careful records are often **held to strict account for results.** Here is such a record:

On a 72 inch steel planer one Rhoads belt lasted 629 days costing 2⅓c per day; another 732 days costing 2.17c per day. A belt of another well-known make wore out in 100 days, costing 10.8c per day. This indicates two things:

First, it pays to buy the best belting you can find for your purpose.

Second, it pays to keep records.

Textile mills as well as machine shops can doubtless effect economy by keeping records.

Let us have your order for some belts, and we will send with them printed tags, as many as you can use, for records both of our belts and others.

Write for our book of belting achievements.

J. E. RHOADS & SONS

PHILADELPHIA, 12 N. Third Street
NEW YORK, 40 Fulton Street
CHICAGO, 243 E. Randolph St.

Factory and Tannery, Wilmington, Del.

Lubricating Cleanliness in Textile Mills is reflected in the operative, the machinery, the products and the profit.

Are you interested in accomplishing the most efficient lubrication of engines, shafting, lower machinery and all special parts where spattering of oil is sure to stain goods? Do you want cleaner floors, cleaner belts, cleaner machinery, cleaner profit?

Then make it a point to test

TRADE MARK REGISTERED IN

NON-FLUID OILS

UNITED STATES PATENT OFFICE

"The oils which do not drip"

In reading the line "Oils which do not drip" you must call to mind several places in your mill where there's a chance for improvement.

Mention these places to us on a postal and we will forward free samples of **Non-Fluid Oil** to meet the conditions. Address Dept H.

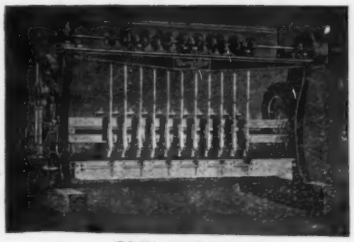
ORIGINATORS AND SOLE MANUFACTURERS

New York and New Jersey Lubricant Co.

165 Broadway, New York.

Mill stocks (continued).

Clifton Mfg. Co., pfd., S. C.	101	...
Clinton Cotton Mills, S. C.	120	130
Columbus Mfg. Co., Ga.	93	98
Consolidated Cotton Duck	...	6
Consolidated Cotton Duck, pfd.	...	19½
Cotton Duck, 5s	77	77½
Courtenay Mfg. Co., S. C.	...	100
Dallas Mfg. Co., Ala.	...	110
Darlington Mfg. Co., S. C.	80	88
Drayton Mfg. Co., S. C.	...	100
Eagle & Phenix Mills Co.	...	135
Easley Cotton Mills, S. C.	170	176
Enoree Mfg. Co., S. C.	52	60
Enoree Mfg. Co., pfd., S. C.	95	100
Enterprise Mfg. Co., Ga.	75	90
Exposition Cotton Mills, Ga.	195	200
Gaffney Mfg. Co., S. C.	80	82
Graniteville Mfg. Co., S. C.	160	165
Gainesville Cotton Mills, Ga.	75	80
Granby Cotton Mills, 1st pfd., S. C.	35	45
Greenwood Cotton Mills, S. C.	58	61
Grendel Mills, S. C.	112	115
Henrietta Mills, S. C.	160	175
John P. King Mfg. Co., Ga.	90	92½
Lancaster Cotton Mills, S. C.	130	...
Lancaster Cotton Mills, pfd., S. C.	97	101
Langley Mfg. Co., S. C.	107	110
Laurens Cotton Mills, S. C.	135	...
Limestone Mills, S. C.	150	170
Lockhart Mills, S. C.	78	90
Lockhart Mills, pfd.	99	100
Loray Mills, pfd., N. C.	95	97½
Marlboro Cotton Mills, S. C.	80	82
Mayo Mills, N. C.	165	185
Mills Mfg. Co., S. C.	100	...
Mills Mfg. Co., pfd., S. C.	...	109
Monaghan Mills, S. C.	154	161
Monarch Cotton Mills, S. C.	102	107
Newberry Cotton Mills, S. C.	125	140
Norris Cotton Mills, S. C.	125	130
Olympic Cotton Mills, pfd., S. C.	90	...
Orangeburg Mfg. Co., pfd., S. C.	80	91
Orr Cotton Mills, S. C.	104	106
Pacolet Mfg. Co., S. C.	...	101
Pacolet Mfg. Co., pfd., S. C.	99½	102
Pelzer Mfg. Co., S. C.	150	160
Piedmont Mfg. Co., S. C.	175	177
Poe Mfg. Co., S. C.	170	180
Raleigh Cotton Mills, N. C.	100	105
Richland Cotton Mills, pfd., S. C.	...	45
Roanoke Mills, S. C.	153	160
Saxon Mills, S. C.	127	...
Spartan Mills, S. C.	130	140
Springstein Mills, S. C.	...	100
Tucapau Mills, S. C.	250	...
Trion Mfg. Co., Ga.	...	140
Union Buffalo Mills Co., 1st pfd., S. C.	70	75
Victor Mfg. Co.	143	160
Warren Mfg. Co., S. C.	104	...
Warren Mfg. Co., pfd., S. C.	106	...
Whitney Mfg. Co., S. C.	122	...
Williamston Mills, S. C.	117	125
Wiscassett Mills, N. C.	120	135
Woodruff Cotton Mills, S. C.	156	...
Washington Mills, Va.	28	...
Washington Mills, pfd., Va.	106	110



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FOR ALL PURPOSES WHERE A NUMBER OF ROWS OF SEAMS ARE REQUIRED

BUILT WITH ANY REQUIRED NUMBER OF NEEDLES

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When you buy a **Shultz "Aqua" Waterproof Belt** you have a reliable one,—one that does not stretch nor slip and lose power, and one that does not lose its waterproof qualities after a few years in service, but remains waterproof, steamproof, and oilproof. Besides you get a belt that will positively outlast two or three canvas or rubber belts and transmit from 25% to 33% more power.

Write for Circular No. 6

Shultz Belting Company

St. Louis, Mo.

New York Boston Philadelphia

54 A

NO. 6 EXPERIENCE WITH **GANDY**

ELEVATORS AND GANDY

The Gandy Belting Co., Baltimore, Md.

Dear Sirs:—I take pleasure in stating that we have for eight years been using your Gandy Belt on two elevators, one of which is 78 feet long, making 156 feet of 18 inch 10-ply belt on that elevator and from which we get splendid service.

The belts give us a year's service and carry about 150,000 (one hundred and fifty thousand) tons of ore of 1 ½ mesh. Yours truly,

The Eagle Ore Company.

Another example of service in a different kind of work. The Gandy Belt keeps pace with the hardest conditions of modern engineering.

For driving, elevating and conveying. Unaffected by heat, steam, acid fumes or extreme conditions of temperature. It is one third the cost of leather and 25% cheaper than rubber.

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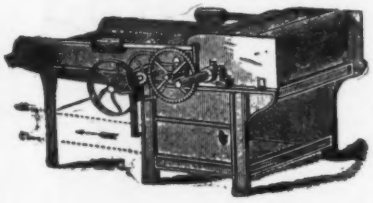
New York Office, 88-90 Reade St.

Geo. W. Gerry & Son, ATHOL, MASS.

MANUFACTURERS OF



Lumpers,

Wool and Waste Dusters,

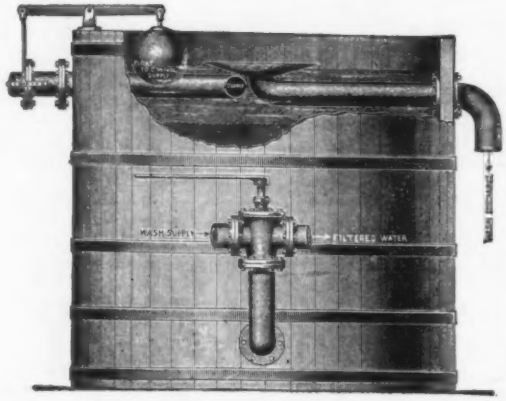
Rag Dusters, Nappers.

Improved Cloth Measuring Machines.

Lumper and Duster Cylinders Refilled and Repaired.

WILSON GRAVITY FILTERS

SUPPLY PERFECTLY FILTERED WATER



Because of the superior construction of our valve, a very fine grade of filtering material can be used.

Where needed in certain localities, a coagulant can be used in exactly the necessary quantity by means of our improved automatic device for regulating the supply.

We install plants of any capacity, and have received many expressions of satisfaction from representative textile mills using Wilson Filters.

NORWOOD ENGINEERING COMPANY
FLORENCE, MASS.

Soft Clear Water.

We-Fu-Go and Scaife Water Softening Plants, and Scaife Water Filters can be seen in actual operation in Textile Plants in any part of the U. S. Apparatus designed to suit each special case, and we guarantee results. Write for Illustrated Catalogue.

WM. B. SCAIFE & SONS CO., Pittsburgh, Pa.

GEYSER WATER HEATER

U. S. Pat. 873,229

To attach to end of steam pipe for heating liquids in tanks or vats. Modifies that disagreeable noise caused by the direct introduction of a steam jet and raises the liquid to the required temperature in about 70% of time required by latter. By its thorough circulation it distributes an even temperature throughout the tank. Price list upon application.

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FILTERS AND WATER SOFTENERS

Hungerford Filters having a daily aggregate capacity of over thirty million gallons per day are now in operation in the textile mills of America.

Estimates and plans for proposed installations submitted without cost.

HUNGERFORD & TERRY, Inc.,
PENNA. BLDG., PHILADELPHIA, PA.

A. KLIPSTEIN & CO.

Dyestuffs and Chemicals

Fast Colors for Wool and Cotton.
Full Line of Direct Cotton Colors.

THIOPHENOL BLACK T EXTRA and 2 B EXTRA.
PYROGEN BLUE R . . . .
PYROGEN INDIGO. . . . .

} Direct Sulphur Colors, Faster than Indigo, to light and Washing.

Chrome Fast Blacks, Blues, Browns and Yellows.
Acid Benzyl Blue, Violet Green and Black.

Headquarters for Caustic Potash 90%. Carbonate of Potash. Chlorate of Potash and Soda. Tannic Acid. Bleaching Powder.

129 Pearl Street, .. NEW YORK

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SOLE AGENTS FOR

The Society of Chemical Industry, Basle, Switzerland.

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THE ECONOMICAL BLACK FOR COTTON

LOGWOOD BLACKS can be dyed absolutely at the lowest cost from all possible blacks.

LOGWOOD BLACKS on cotton, wool and silk, when properly dyed, cause a material increase in weight.

LOGWOOD BLACKS are handsome and permanent; they do not redden with age but retain their original rich tone and beauty of shade.

LOGWOOD BLACKS would solve many of your problems.

AMERICAN DYEWOOD COMPANY

NEW YORK PHILADELPHIA BOSTON HAMILTON, ONT.

HELINDONE COLORS

The latest, fastest and strongest vat dyestuffs.

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THIOGENE COLORS DIANIL COLORS
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SAN FRANCISCO, 580-582 Howard St.
PHILADELPHIA, 104 Chestnut St.
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ATLANTA, 1418 Empire Bldg.
MONTREAL, 170 McGill St.

Laboratories, Newark, N. J.

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PEROXIDE BLEACHING

free to mills

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Cassella
Color Company
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Dye Stuffs
NEW YORK
BOSTON
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PROVIDENCE
ATLANTA
MONTREAL

Castor Oil our own make and Castor Oil Products. Unsurpassed in quality. They are the standards.

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MANUFACTURERS
ALIZARINE ASSISTANT
TURKEY RED OIL
SOLUBLE OILS
OLEINE
B. & L. ANTI-CHLORINE (ultra bleaching process)
OLO SOFFENE (superior cotton softener)
CASTOR SOAP OIL
SIZING AND FINISHING COMPOUNDS
Works and Main Office, ATLANTIC, MASS. (Suburb of Boston.)

KALLE & CO., Incorporated

Selling Agents for

ANILINE COLORS

Manufactured by

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Main Office, 530-36 Canal St., New York. Branches, Boston, Providence, Philadelphia, Greensboro, N. C.

Chlorazol Brilliant Blues

Brightest Blues on the Market

Cross Dye Blacks BX & RX. Cross Dye Yellow D.
Cross Dye Browns 2R, 4R, 6R, D.
Fast to Milling, Light and Cross Dyeing.

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Works: Huddersfield, England. Brooklyn, N. Y.

Branches: Boston, 125 Pearl St. Charlotte, N. C. Philadelphia, 107 N. 2d St. Toronto, Ont., 23 Church St.

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Alizarine Colors
Dyestuffs
Chemicals

F. E. Atteaux & Co.

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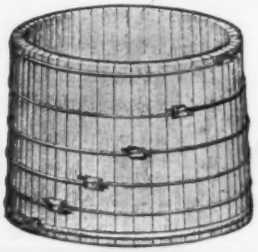

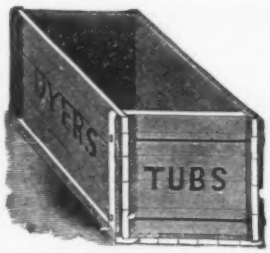

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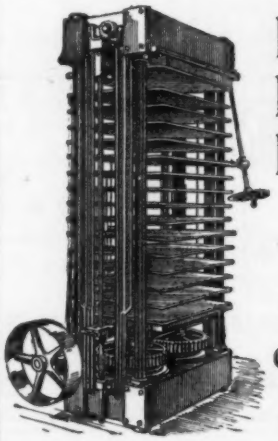

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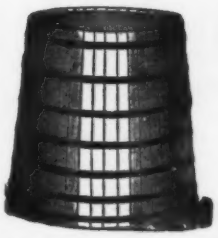

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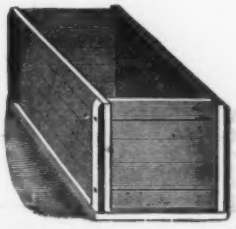

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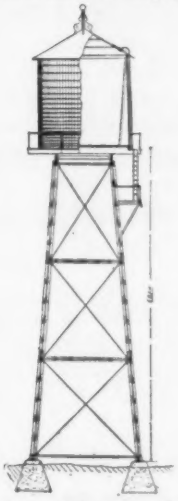

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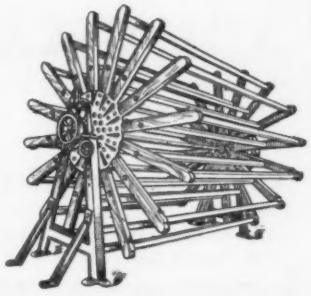

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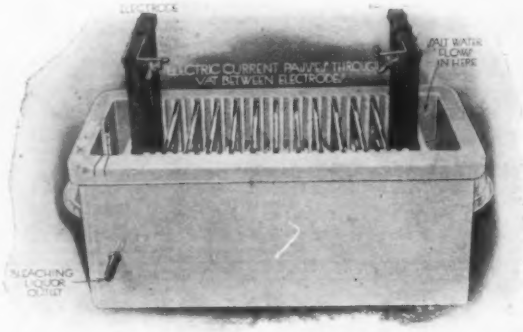

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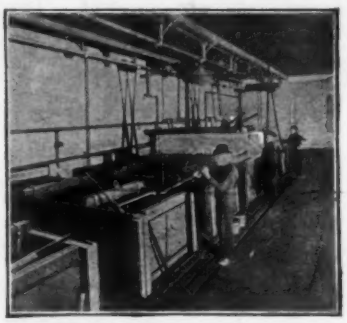

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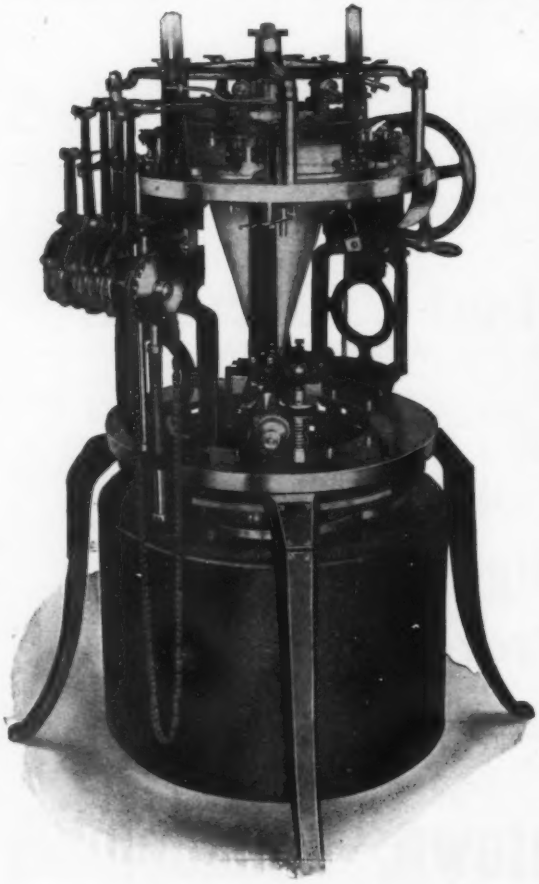

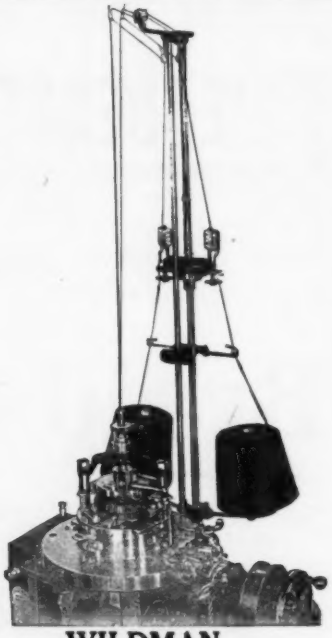

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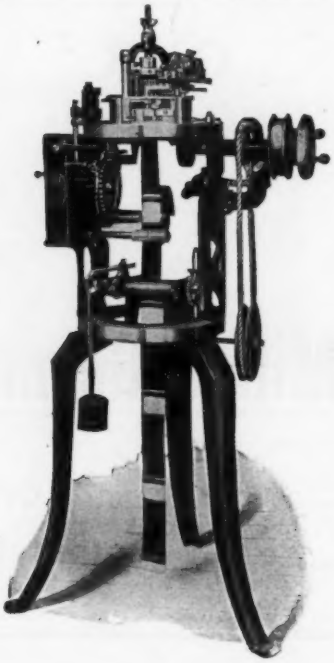

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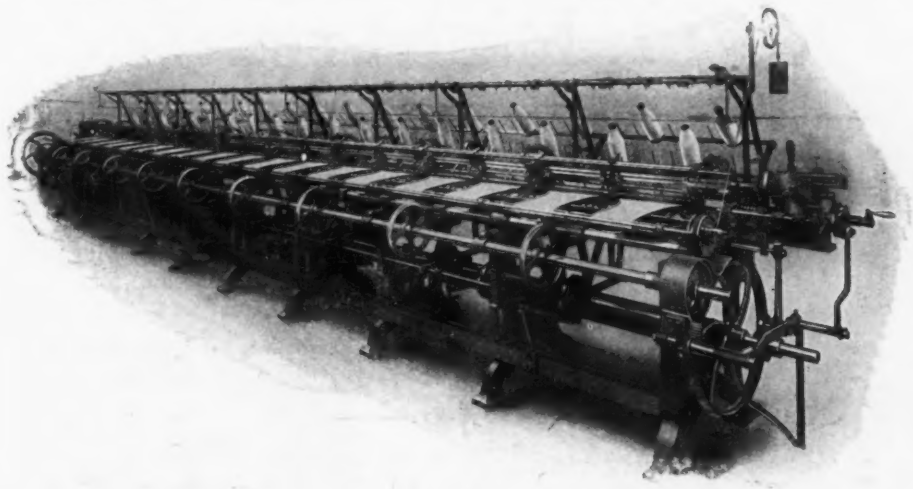

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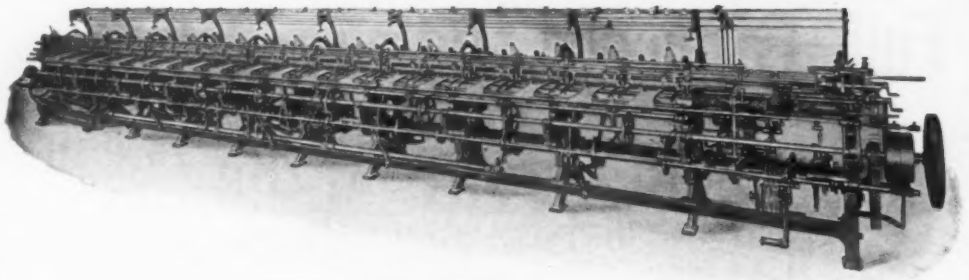

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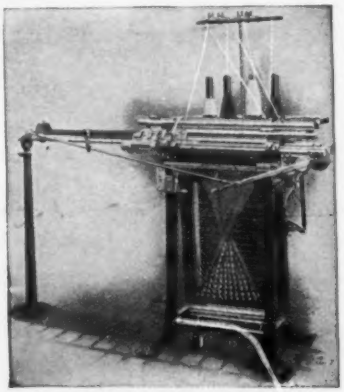

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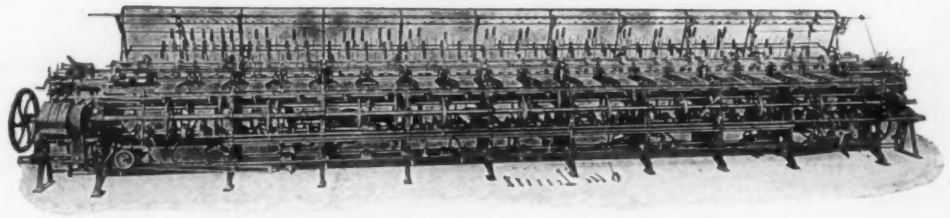

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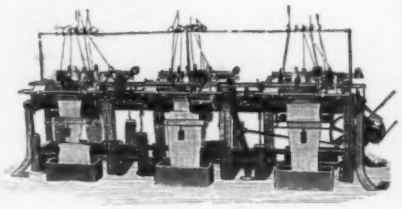

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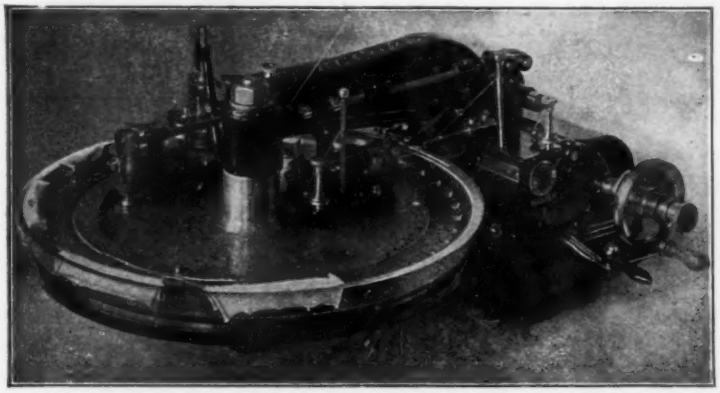

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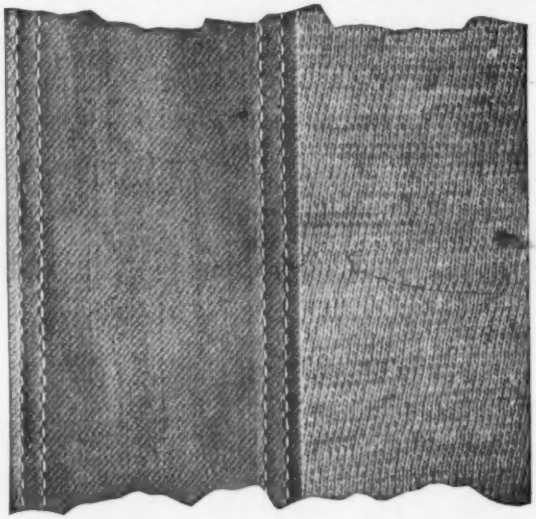

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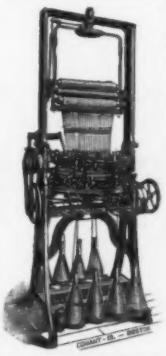
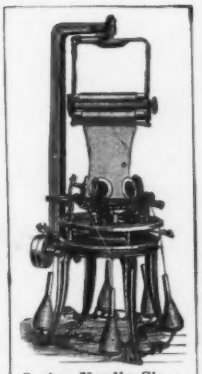


Circular Spring Needle Rib Top Machine.



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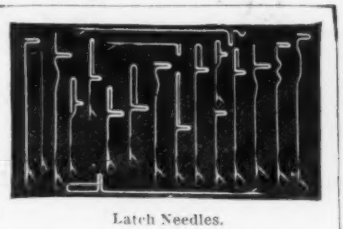

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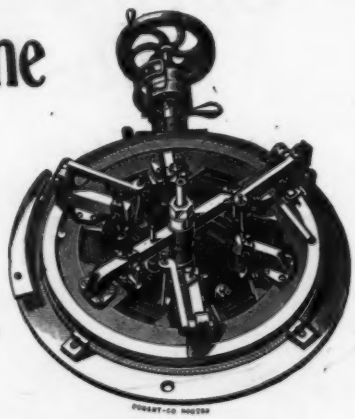
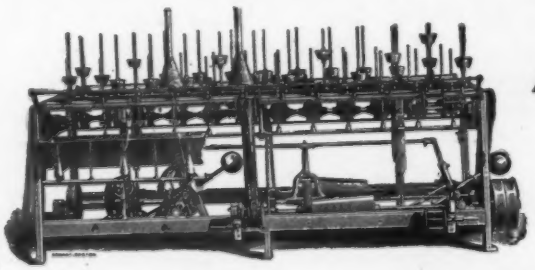
FOR RIBBED UNDERWEAR

Automatic Racking and Striping Machines for Sweaters, Cardigans, Collarettes, Cuffs and Anklets.





THE WELL KNOWN

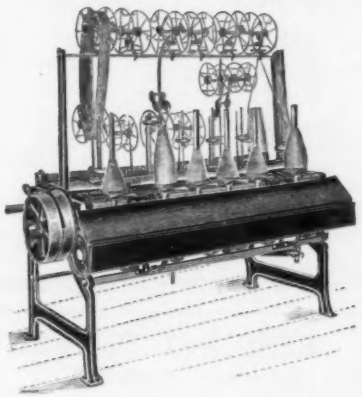
ABEL WINDERS, SEAMERS and LOOPERS

ARE ALSO BUILT BY US

LEIGHTON MACHINE CO., Manchester, N. H.

A. W. ALLEN
2427 Mascher St., Phila.

WINDERS

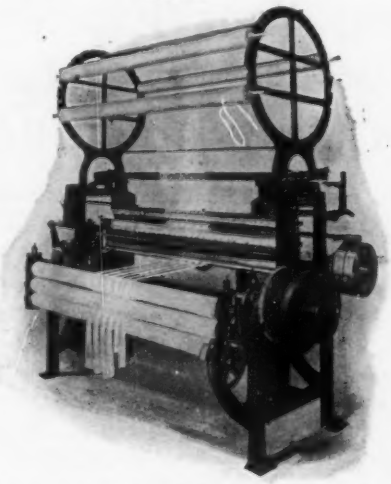


6 SPINDLES UP

The best winder on the market. If you are not using one or more try one.

George W. Lindley
5122 Wakefield St., Germantown, Philada.

BUILDER OF



Lace and Edging Machine

Also Textile and Special Machinery
Rib Knitting Frames

NYE & TREDICK CO.
718-720 Cherry Street,
PHILADELPHIA, PA.

Circular Rib Knitting
MACHINERY

For making Ribbed Underwear, Combination Suits, Sweaters, Cuffs, Shirt Borders, Hosiery, etc. Correct Construction, Excellence and Durability.

LATEST IMPROVEMENTS

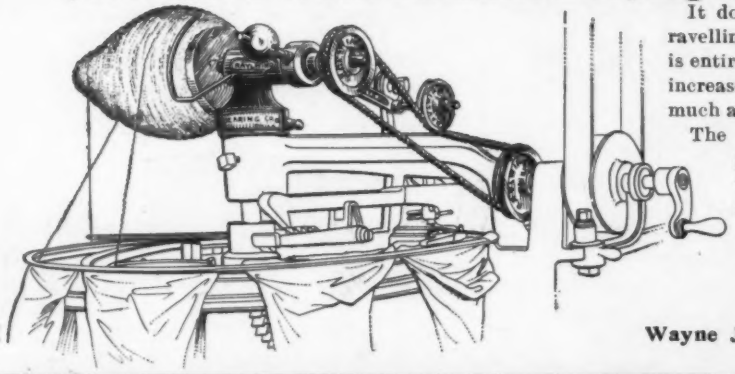
QUALITY OF FABRICS AND PRODUCTION

UNEXCELLED

NYE & TREDICK CO.

The "RAVLWIND" Saves Hosiery Manufacturers

$2. to $3. a Week on Each Looping Machine



It does away with hand ravelling and winding, and is entirely automatic. Has increased the production as much as 40%.

The "Ravlwind" folder gives other facts that will surprise you—send for it.

Arguto Oilless Bearing Co.,

Wayne Junction, Phila, Pa.

WILLIAM C. BULL,

BENNINGTON, VERMONT.

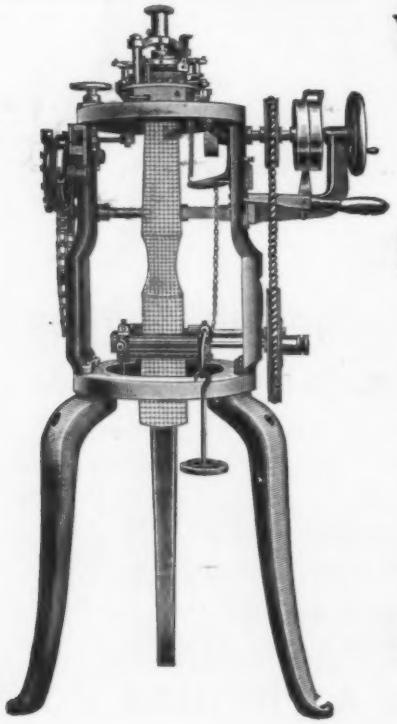
For Ladies', Gents' and Children's Goods.

Latest Styles.
Best Workmanship.

MAKER OF

Drying Form Boards

OF EVERY VARIETY.



You Will Increase Output

and

Decrease Your Expenses

By Using Our High Speed

Rib Knitting Machinery

Our latest models will cause fewer seconds, less breakage of needles, less jar, wear and tear, than machinery designed for lower speed.

While effecting this saving, it decreases your production cost and so increases your profit.

The same economies result from the use of our Stripping and Designing Machines for Fancy Golf Stockings, Bathing Suits, Sweaters, Toques, Toboggan Caps, Skirts, etc.

STAFFORD & HOLT,

LITTLE FALLS, N. Y.

Ribbed Hosiery and Underwear Makers

You Can Double Your Present Production Without Adding New Machinery

fill your orders in half the time now required—do in 6 months as much work as you now turn out in 12, by using the *new patented*

Double Acting Attachment for Ribbers

It makes good Ribbers better; reduces the necessary space; is built on the interchangeable plan. We can change over WILDMAN, BRINTON, or SCOTT & WILLIAMS machines.

Secure this Double-Acting Attachment and increase your output 50%. Tests prove our claims.

Machines exhibited and sold by

James Taylor

Dealer in New and Second Hand Knitting Machinery

121 Arch Street, Philadelphia, Pa.

TRADE MARK

REG. U. S. PAT. OFF.

Our claims cannot be proven by an advertisement.

This can be done only by YOU in an actual test.

Is it not to your interest to make it?

Sales in 1909 the largest in the history of the Company and not without reason.

CLAIMS:

Highest Sustained Speed.
Lowest Maintenance Cost.
Perfect Stitches.
Largest Production.
Noiseless.
No Vibration.
An Investment—Not an Expense.

WILLCOX & GIBBS SEWING MACHINE CO.

Chief Office: 658 Broadway, N. Y.

Willcox & Gibbs Sewing Machine Co., Ltd.
London Paris Nottingham Milan Dresden

WILLCOX & GIBBS

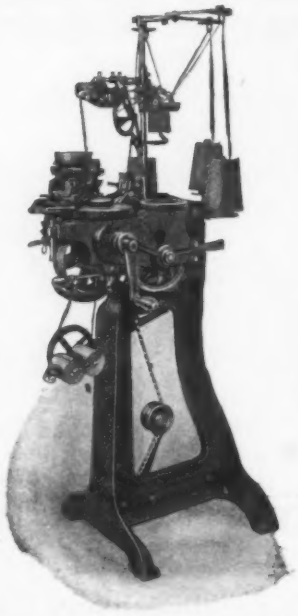
HIGH SPEED LOCKSTITCH MACHINE

Indispensable to Manufacturers of

Shirt Waists,	Dressing Sacks,	Skirts,	Muslin Underwear
Wrappers	Petticoats	Infants' Wear	Cloaks
Millinery	Veilings	Neck Wear	Sheets and Pillow
Shirts	Collars and Cuffs	Clothing	Cases
Pajamas,	Ruffling,		Tucking

and for finishing KNIT UNDERWEAR

3,500 to 4,000 Perfect Stitches Per Minute where Factory Conditions Permit



THE INVINCIBLE

Full Automatic Knitter

The machine that stands for

QUALITY OF PRODUCT

Jenckes Knitting Machine Co.

SUCCESSOR TO
KNITTING MACHINE DEPARTMENT OF
E. JENCKES MFG. CO.

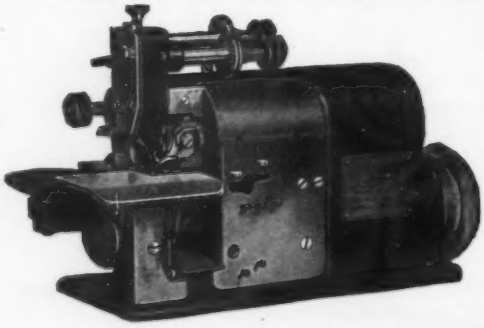
Pawtucket, R. I.

Philadelphia Office, 633 Arch Street.

The Merrow

FAST
DURABLE
Light Running

High Speed Overseaming, Overedging and Scallop Stitch Machines are



OUR STYLE 60 MACHINE for Trimming and Overseaming in one Operation produces the strongest, best Seam and does it with the greatest economy.

USE STYLE 18 for Horse Blankets. STYLE 17 or 22 for Bed Blankets. STYLE 35 B SHELL, for Necks and Fronts of Rib Goods, produces the most showy, substantial finish.

Send for Catalogue and Samples.

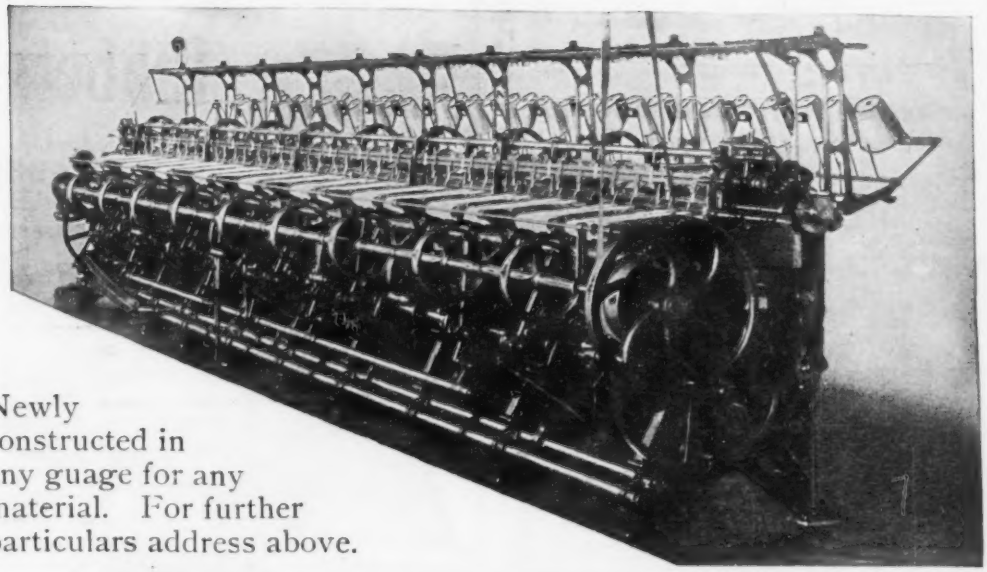
THE MERROW MACHINE CO. HARTFORD, CONN.

Knickerbocker Building, Sixth and Arch Sts., Phila. 467 Broadway, cor. Grand St., N.Y. 237 Market St., Chicago, Ill.

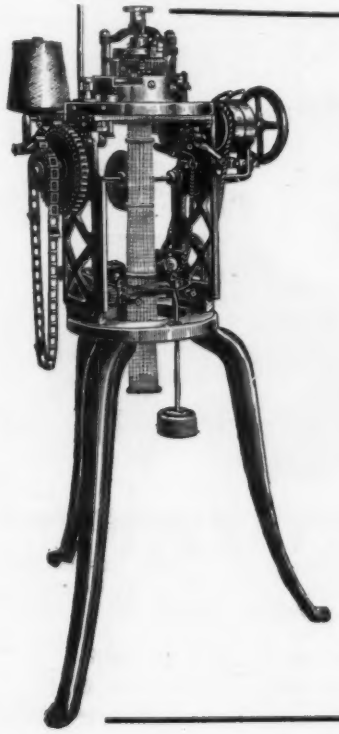
WOLFGANG RICHTER, 522 North 4th St., Phila., Pa.

Builder of

FULL FASHIONED HOSIERY MACHINES



Newly constructed in any guage for any material. For further particulars address above.



Expense-Reducing

Knitting Machinery

FOR

Hosiery, Underwear, Sweaters, Toques, etc.

You can economize on production costs by using our

Improved Automatic Ribber

AND

Full Automatic Knitter

Estimates Furnished for Complete Equipments
Send for Particulars.

H. Brinton Co.

213-215 Race St., Philadelphia, Pa.

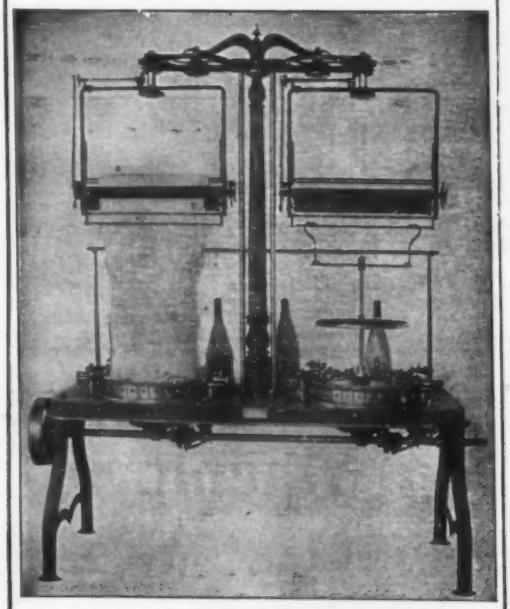
Established 1870. — Incorporated 1890.

CRANE M'F'G. CO.

LAKEPORT, N. H.

Manufacturers of

Spring and Latch Needle Machines for both rib and plain work, producing a great variety of fabrics. Patent removable hardened Wing Burr Wheels.



Spring Needle Underwear Machine.

GENERAL MACHINE WORKS

YORK, PA.

Manufacturers of

Ribbers

for Hosiery, Underwear and Gloves. Splicers and Sleevers

We carry a large stock of needles and can supply your wants promptly. We are prepared to cut cylinders and dials promptly and accurately. We develop and market new ideas for any one. Your inquiries will be appreciated.

CASE BROTHERS

INCORPORATED

Highland Park, Conn.

Manufacturers of

RAG PRESS BOARDS

Especially Adapted to **Hot Pressing**

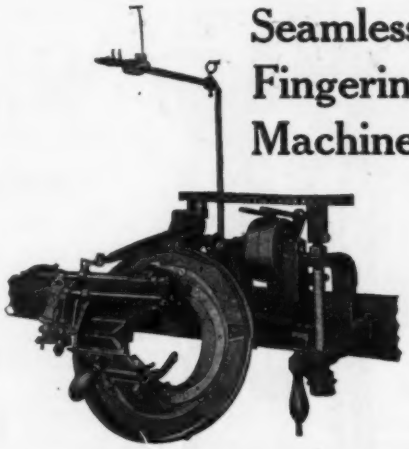
Also **Fender Boards**

Medals awarded at Paris and Melbourne Expositions.

Jacquard Cards

of all Grades for Fancy Weaving. Accurately Cut to Any Size.

Seamless Fingering Machine



Knit Glove Manufacturers

If you want to be up to date, ask us for particulars of this machine. Indorsed by leading manufacturers.

James Leckie & Son,

821 N 13th Street, Phila, Pa.

If You Want

Largest Production For Least Money

Write

Geo. D. Mayo Machine Co.

Laconia, N. H.

Latest
Simplest
Best

MAYO'S

New Full Automatic Knitter

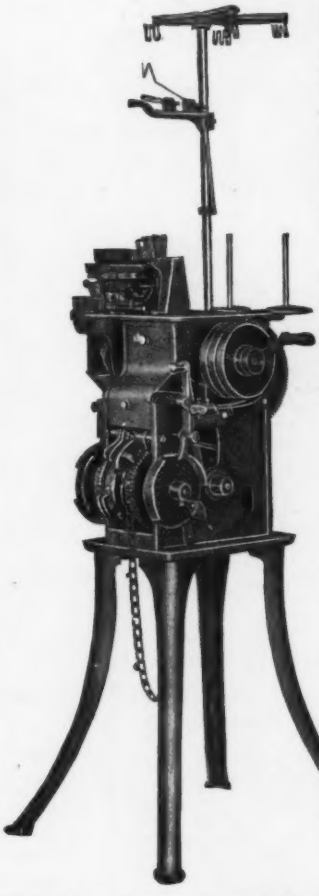
PHILADELPHIA OFFICE
Knickerbocker Bldg., Cor. Sixth and Arch Sts.

"THE BANNER"

Hemphill's Latest

A FULL AUTOMATIC MACHINE

Specially adapted to



Manufacture Hose with Linen or Mercerized heel or toe.
Also for

Plaited Goods

and

String Work

High Splice

and

Double Sole

Largest Production

More Yarn Changes

Highest Speed

Simplest

Least Repairs

Produces a Superior Quality of Work.

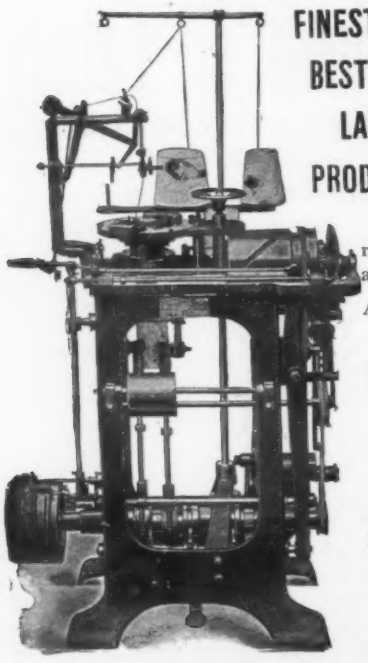
MANUFACTURED BY THE

Hemphill Mfg. Co.

131 Clay Street, PAWTUCKET, R. I.

"NATIONAL"

Stands for



FINEST GAUGES
BEST FABRIC
LARGEST
PRODUCT ON

Greatest Variety of Laces and Novelties.

Allautomatic.

Lowest Cost for Operating

Also
Rib Knitting Machinery, Overedge, Crochet and Shell Stitch.

NATIONAL AUTOMATIC KNITTER CO.

1028 Susquehanna Avenue PHILADELPHIA, PA.

The New Boss Seamless Knitter

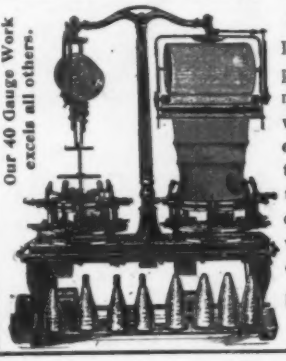
Do you want the biggest production with the least menders, for the least money? If so, write to the Boss Knitting Machine Works for their circular with full directions. There is no cylinder to be handled. We use only one cylinder and transfer device for half hose or ladies' hose. This machine beats them all. Has no equal for simplicity and durability. Makes 300 revolutions per minute. Built in sizes from 2¼ to 5½; from 40 to 224 needles. Automatic in heel and toe. It is the strongest built knitter on earth.

Send for prices and particulars.

THE BOSS KNITTING MACHINE WORKS,
Cor. Elm and Reed Sts., Reading, Pa.

We are the Oldest Manufacturers

of this Design of Spring Needle Knitting Machine in this Country



40 years' experience

Do not be misled by people who became manufacturers in 1903 without any previous experience who are trying to represent that they are the oldest manufacturers. Investigate. Call and see our fine gauge work.

Robt. W. Gormly & Co.
Troy, N. Y.

"Acme" and "Hemphill"

SEAMLESS HOSIERY

Knitting Machines

built by

Acme Knitting Machine & Needle Company

Franklin, N. H.

Answer all purposes in the *most reliable*, *up-to-date*, and *economical* manner. Write us for full particulars.

Manufacturers like our Latch Needles

because we make a superior grade of needles.

Philadelphia Office, Knickerbocker Bldg.

STANDARD MACHINES FOR HOSIERY MAKING

The STANDARD F, with attachments, can make any and all of these fabrics:

Plain Goods
Plaited Work
Three Color Stripes
Tipped Heel and Toe
White Foot
Changed Heel and Toe
Garter Top
Loopers Slack Course

Most Stockings—Best Fabrics—Longest Life

Standard Machine Company

OFFICE AND SHOW ROOMS

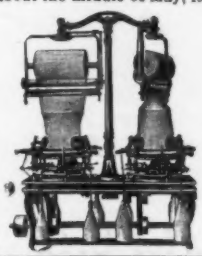
330-348 North 12th St., Philadelphia

We Are the Oldest Manufacturers
IN THE WESTERN HEMISPHERE
Of Circular Spring Needle Loop-Wheel Knitting Machinery.

TOMPKINS BROS. CO., Troy, N.Y.

We submit the following extract from the sworn testimony of R. W. Gormly, in U. S. Circuit Court, Northern District of New York, in equity, No. 6764:

Cross Question 123. How long have you been a manufacturer of knitting machines? Answer. I started in this business about the middle of May, 1900.



Tompkins Knitter

This design was adopted in 1875.

BUSINESS ESTABLISHED in 1846, before ROBERT W. GORMLY Was born, according to his testimony in the case above cited.

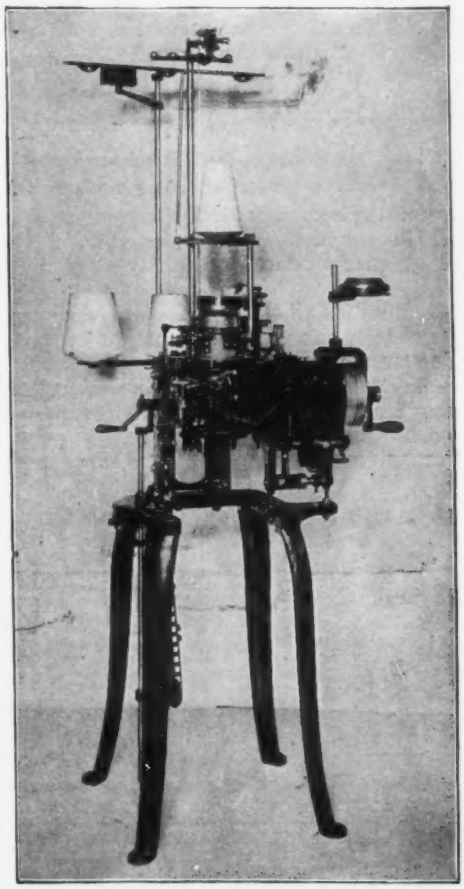
Full Automatic Knitters

For Ladies', Half Hose and Footing, also for

Ladies' Split Sole and Lace Hose

Full Fashioned Legger and Heeler for Full Fashioned Hose.

Measure lengths like a Rib Frame.



Paxton & O'Neill

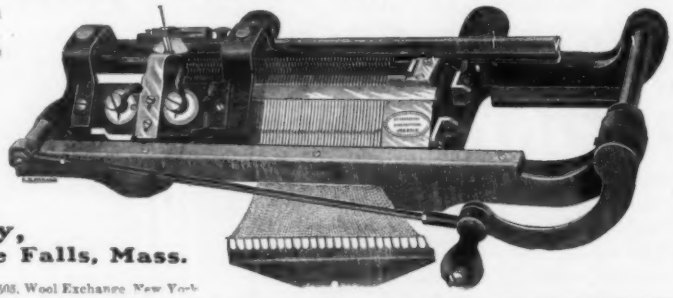
537-41 North Third Street, Philadelphia.

The LAMB

LEADER OF KNITTERS

Original and Still the Best.

Most widely used; being operated in every civilized country in the world. For description, prices, etc., see catalogue.



Circular Machines, Rib Top and Seaming Machines.

Lamb Knitting Machine Company,

P. O. Box, 5888, **Chicopee Falls, Mass.**

J. E. WOODHEAD, 109 22d St., Chicago.
L. D. SANBORN, Room 503, Wool Exchange New York

We Lead in the Industry of Knitting Machines.

130,000 Knitting Machines in use all over the Universe

CLAES & FLENTJE

Mühlhausen Thr., Germany

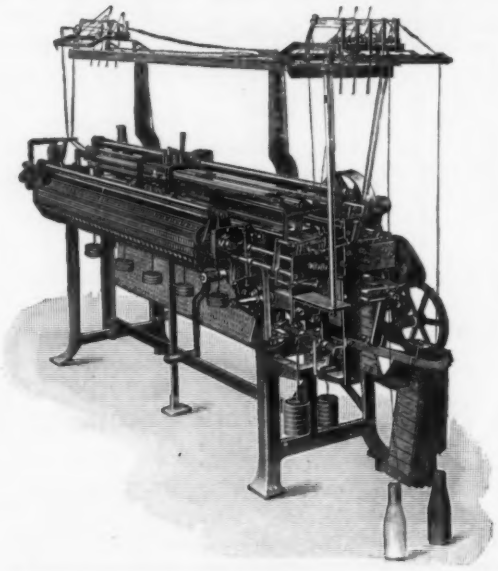
(Largest Knitting Machine Factory in the World)

Our knitting machines are far superior to any other in simplicity and construction. They give a higher production than any other on the market.

Machines for all kinds of plain and fancy knit goods by hand and full automatic by power.

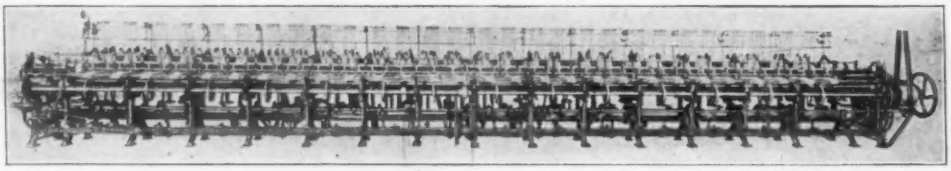
The cut represents our newly patented fully automatic left and left power machine for producing fancy stitches that formerly could only be produced by hand.

For full particulars, needles and supplies for all kinds of knitting machines, write to



Ainslie Knitting Machine Co.

281 Ainslie Street, **Brooklyn, N. Y.**



ANNOUNCEMENT!

H. ALBAN LUDWIG, Chemnitz, Saxony

MANUFACTURER OF THE FAMOUS LUDWIG'S FULL FASHIONED HOSIERY MACHINES (SYSTEM COTTON) HAS OPENED TEMPORARY OFFICE

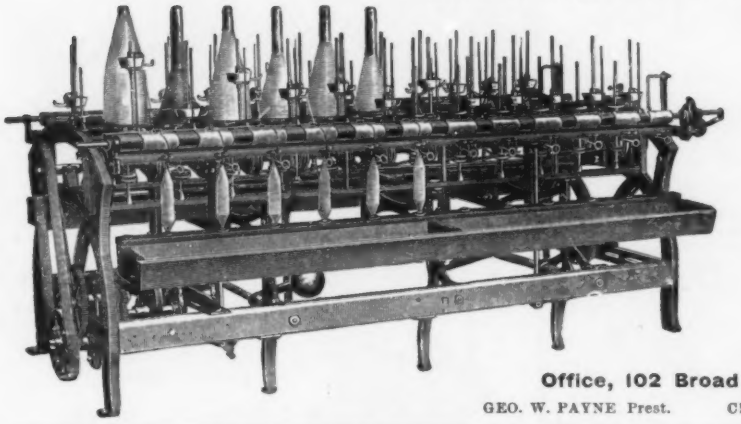
260 West Broadway, NEW YORK CITY

(Wool Exchange Building)

LOUIS HIRSCH, = Sole Representative for U. S.

OVER 1,900 PAYNE WINDERS IN USE

By Hosiery Manufacturers,
Wind for Cop, Skein or Bobbin.



Improved

Upright Spoolers,

To Spool from Cop, Skein or Bobbin.

Doubling Spoolers for doubling 2, 3, or more ends into one.

Upright Quillers, Quill from Cop, Skein or Bobbin.

Ring Dresser, Spooler and Reel Spindles, Cop Skewers, Warp, Spool, Spooler, Guides, Bolsters and Stops Made and Repaired at Short Notice.

GEO. W. PAYNE CO.,

[Est. 1865. Inc. 1903.]

Office, 102 Broad Street, Pawtucket, R. I.

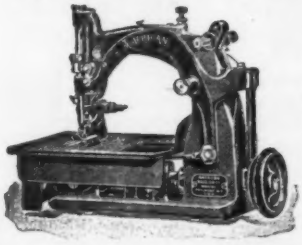
GEO. W. PAYNE Prest. CLINTON F. PAYNE, Sec'y. and Treas.

American Raveller Company

PHILMONT, N. Y.

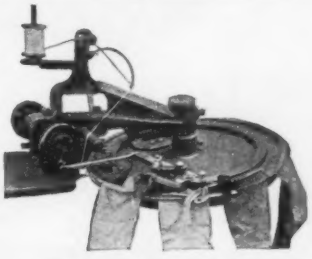
MANUFACTURERS AND PATENTEES OF

High Speed, Elastic Stitch Sewing and Trimming Machines

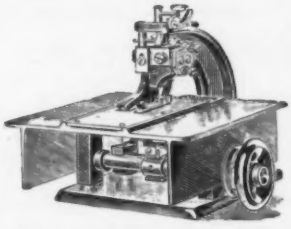


Also ravelling machines for making knit underwear and hosiery full fashioned.

2 line and twin needle machines for fancy stitching.



The Firsching Cuff Cutter



is noted as the only machine that can cut close to the welt and at the same time prevent cutting it. It is simple to operate. It doesn't require a skilled operator and it will do the work better than it can possibly be done by hand.

Knitting Machine Specialties: Cloth Cutting Machines, Embossing Machines, Collarette Cutting and Winding Machines, Electrically Heated Neck Marking Machines, Cloth Turning Machines, Horizontal and Vertical Drying Machines, Lace Measuring Clocks and Button Hole Spacers.

J. A. FIRSCHING,
22-28 John Street, UTICA, N. Y.

Eureka Fire Hose

THE BEST FIRE HOSE MADE.

(Trade Mark.)

For use in

Cotton Mills, Woolen Mills and Factories.

Seamless Woven and Rubber lined EUREKA COTTON HOSE, has no equal. Send for circular and testimonials.

Awarded Gold Medal at the St. Louis Exposition, 1904.

EUREKA FIRE HOSE MFG. CO.

13 Barclay St., New York, N. Y.

HEPWORTH & CO.'S

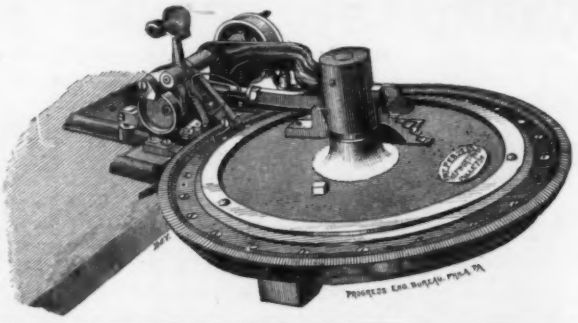
Patent Single-Stitch

Looping Machine

Needle working from the inside, avoiding the breaking of needles and points and picking up the metal.

Single and Double Stitch or Both Combined.

JOHN W. HEPWORTH & CO.,
N. W. Cor. Lehigh Ave. and Mascher St
PHILADELPHIA.



The CRAWFORD

HOLLOW STEAM

PLATE PRESS

For Knit or Woolen Goods

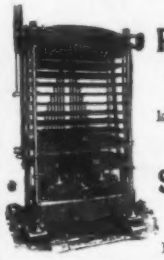
The most reliable machine of the kind on the market.

PRESS PAPERS and FENDERS

SPENCE & RIDEOUT

Successors to
J. J. CRAWFORD & SON

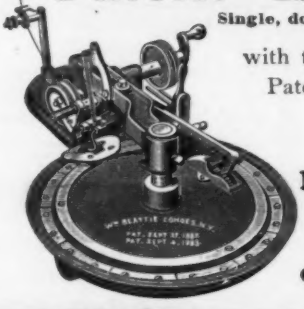
Established 1868 NASHUA, N.H.



Patent Loopers

Single, double and two thread Stitch.

with the
Patent Raised
or
Straight Points.



Beattie Manufacturing Co.,
Cohoes, N. Y.

Drying Forms.

BOARDS FOR FAST BLACK DYERS.

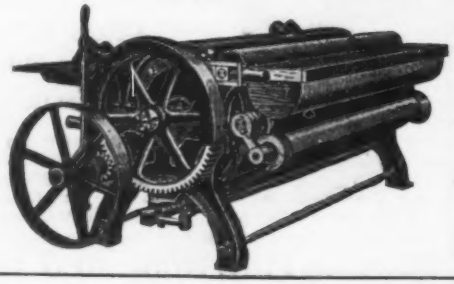
HOSIERY FINISHING BOARDS.

BEST WORK. PROMPT SERVICE. PRICES ALWAYS RIGHT.

JOS T. PEARSON 1815-21 TAYLOR ST. KENSINGTON PHILA

Hosiery Boards.

Automatic Ironing and Pressing Machine Reduces Finishing Expenses 50%



In comparison with other machines (for use on knit goods, ribbed, flat and fleeced lined underwear) this machine will save you 50% through increased production and decreased expenses of your **Finishing Department.**

BREAKS NO BUTTONS

It is adjustable to all grades, and gives a finer finish than that obtained on any other machine.

Capacity of smallest size 600 dozen per day.

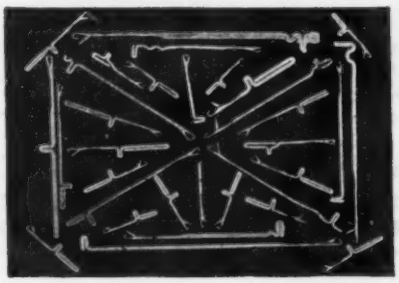
Write for details and references.

The Consolidated H. S. & L. M. Company

Saugatuck, Conn.

Sole Manufacturers and owners of all rights, patterns and patents of the J. W. Craw Laundry Machinery Co.

TRY OUR "SUPERIOR" OR SUNKEN RIVET-HEAD NEEDLES
They will save you money.



Dodge Needle Co., Manchester, N. H.

WM. COREY CO.,
Manufacturers of Knitting Machine
Latch Needles
MANCHESTER, N. H.

EXCELSIOR NEEDLES.
The best Hosiery Needles in the market.
Manufactured by
WARDWELL NEEDLE CO., Lakeport, N. H.

WM. BREEDON'S SON,
MANUFACTURERS OF
Spring Knitting Needles
AND BURR BLADES OF ALL KINDS.
AMSTERDAM, - N. Y.

KEYSTONE LATCH NEEDLE CO
JOHN C EGLY, MGR.
MANUFACTURERS OF
Patent and Regular Latch Needles
Needles for all makes of Knitters and Ribbers.
Keystone Spring Bottom Needles for all makes of Knitting Machines always in stock for immediate delivery.
Special Needles made to order.
543 W. Lehigh Avenue, Philadelphia, Pa.

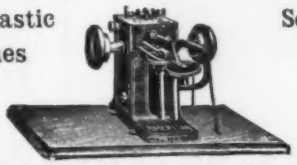
Standard Latch Needles
MANUFACTURED BY
EXCELSIOR NEEDLE CO.,
TORRINGTON, CONN.
The Largest Manufacturers of Machine Needles in the World.

STANDARD
TRADE MARK.

Longer Wear. Better Work.
Less Mending. Fewer Seconds.
Have you tried our
Patent Milled Rivet?
Agents
C. B. Barker & Co., Ltd., 42 W. 15th St., New York.
Manufacturers' Supplies Co., 418 Arch St., Phila.
C. Shawl, 414 Polk St., San Francisco, Cal.
J. C. Strittmatter, 2a Calle de San Francisco No. 9, City of Mexico, Mexico.

L. T. IVES CO.
Manufacturers of all kinds of
SPRING KNITTING NEEDLES
NEW BRUNSWICK, N. J.

AMERICAN OVERSTITCH
Long Elastic Stitches
Soft Flat Seams



Unequalled for finishing Sweaters in One Operation. Sewing in Sleeves with Loops on. For Knit Gloves, etc.
SAVES TIME—TROUBLE—LABOR
Write now
CHARLES H. BRIDOUX & CO.
312-320 N. May Street, Chicago, Ill.

The Continental Latch Needle Company.
Manufacturers of the BEST GERMAN NEEDLE on the Market.
RIVETS GUARANTEED. Samples on application. SPRING NEEDLES A SPECIALTY.
120-122 LIBERTY STREET, - - - - - - - - - NEW YORK.

McCormick Turbines

both Cylinder and Wicket Gate, giving **ENORMOUS** power are used in hundreds of textile mills throughout the world.

We make a specialty of designing turbines to meet the requirements of the public.

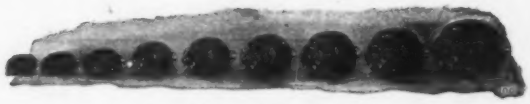
We build Francis turbines in spiral flumes to operate under high heads.

42000 H. P. in Vertical Shaft turbines now in the course of erection to operate 10 umbrella type generators in power plant of Chattanooga & Tennessee River Power Co.

Chicago Office, 644 Am. Trust Bldg.
Boston Office, 176 Federal St.

S. MORGAN SMITH COMPANY, York, Pa., U.S.A.

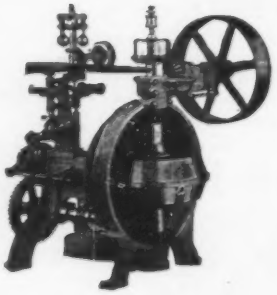
C-W Small Motors



The Celebrated Form L Motor.

Although we build large generators, yet one of our most important specialties is small motors, direct and alternating current. See Bulletins 118Y and 115Y.

Crocker-Wheeler Co., Ampere, N. J.

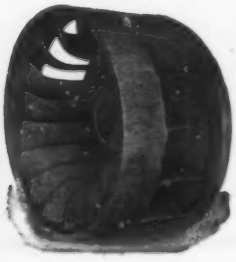


Water Wheel Governors

OUR compensating type more fully meets the needs of Textile Mills than any other. This is due to its being the only successful quick acting, mechanical, governor and its perfect control of large as well as small changes. 1500 of this type in use in mills and electric power plants.

Woodward Governor Co., Rockford, Ill.

HUNT-McCORMICK WATER TURBINES



CYLINDER or BALANCE GATE CASING

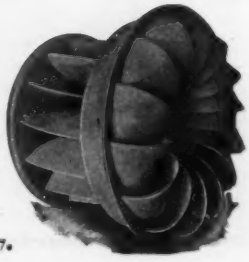
Highest Efficiency, Greater Power,
Easy and Quick Regulation,
Steady Motion, Durability.

Steel Penstocks a Speciality.

RODNEY HUNT MACHINE CO.

ORANGE, MASS.

BRANCH OFFICE: 70 Kilby St., Boston, Mass.

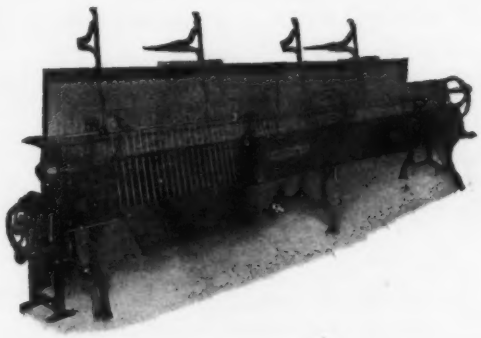


See our Woolen Machinery advertisement on page 47.

SMITH & FURBUSH MACHINE CO.

HANCOCK & SOMERSET STS., PHILADELPHIA, PA.

Jack Bobbin Winder — Circular No. 17A



JACK BOBBIN WINDER No. 106A

AUTOMATIC BOBBIN BUILDER

For perfectly shaped, hard, firm bobbins

ADJUSTABLE SPOOL CREEL

to receive Jack Spools of different lengths

REVOLVING TUBULAR WINDING and TENSION FALLERS

Decreases friction and permits absolute control of hardest twisted or tenderest yarn, also prevents snarling or breakage of threads and this results in an extensive increase of production.

LARGE BALANCE WHEEL

to stop spindles, gradually preventing over running of the spools.

We build our BOBBIN WINDERS with as many spindles and of such guage as may be required.

WRITE FOR CIRCULAR No. 17A

SMITH & FURBUSH MACHINE CO.,

Hancock & Somerset Sts. **Philadelphia, Pa.**

MANUFACTURERS OF

PICKERS { Lumpers; Rag and Carpet Shredders; Rag, Burr, Wool and Fearnaught Pickers.

WILLOW { Square Box and Cone Willows and Dusters.

GARNETT MACHINES { For carding cotton and woolen waste clippings, etc, also for manufacturing batting or felts for Comforts and Mattresses.

FEEDS { Self Feeds for wool, worsted, cotton, or jute, also Camel Backs, Blamires, and Apperleys for Cards.

METALLIC BREASTS { Burring Machines and Self-Stripping Feed Rolls for Cards and Garnett Machines.

CARDS { Woolen, Worsted, Cotton Waste and Shoddy Cards.

MULES { Heavy and Durable, for Wool and Waste Yarn.

TWISTERS { Plain and Fancy Twisters for Flake Loop or Bourette Yarn.

BOBBIN WINDER { Automatic Jack Bobbin Builders; Adjustable Creels for different length spools.

WARPING MACHINERY { Copper Cylinder Warp Dressers with single and double size pans; Beamers; Section Warp Mills; Warp Mills; Dresser Spoolers for worsted or wool.

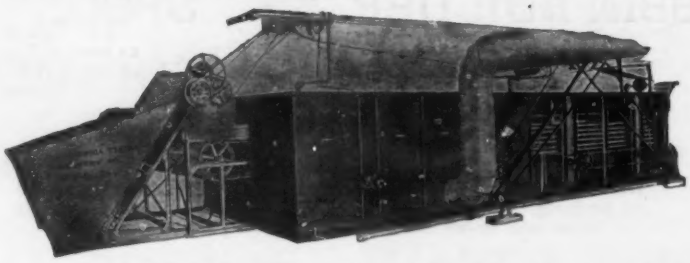
GRINDERS { Floor, Traverse and Portable Grinders for Cards, Garnetts or Rag Pickers.

Machinery for Manufacturing Rewoven Bagging from Old Gunny Bagging.

SPECIAL CIRCULARS FURNISHED FOR EACH MACHINE.

LOOK ON THE OTHER SIDE OF THIS PAGE.

Proctor **Drying Machines** *Fire Proof*



Yarn Dryers
Scouring Machines
Fans

BUILT of METAL

Stock Dryers
Carbonizers
Hosiery Dryers

Apron troubles overcome by the Interlocking Chain Conveyor

It needs no adjustment

Conveyor Separate from Dryer

Address Dept. E.

Philadelphia Textile Machinery Company

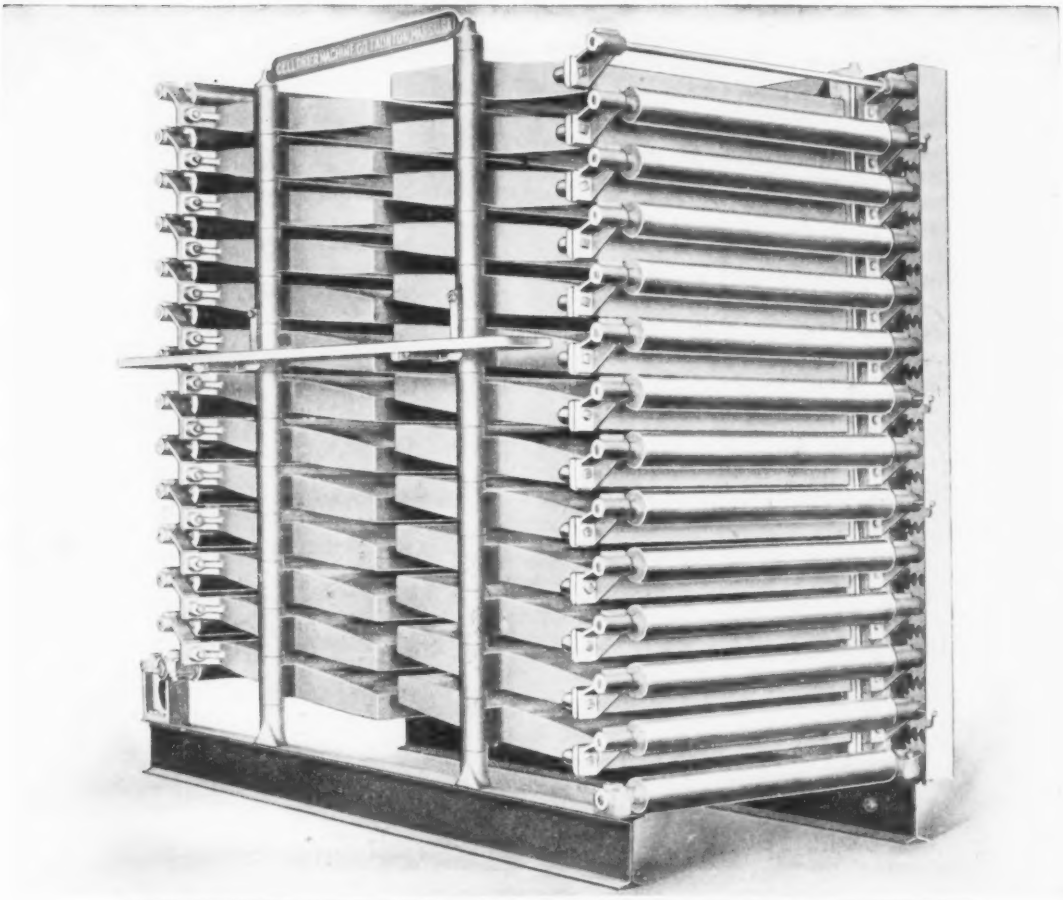
Hancock and Somerset Streets **PHILADELPHIA, PA.**

CELL DRIER MACHINE CO.

TAUNTON, MASS.

BOSTON OFFICE, Stone and Webster Building, **147 MILK STREET**

The New Type Horizontal Cell Drier



Experience is the best teacher, but life's too short to learn everything that way. Let the other fellow do part of it and you share the profit. From one (1) to forty-four (44)

"THE REEVES" VARIABLE SPEED TRANSMISSIONS

are in use in each of the following textile mills, driving dryers, tentering frames, mercerizing machines, dyeing and bleaching machinery, etc.:—

MASSACHUSETTS.

Crystal Springs Bleachery, Assonet
Hampton Co., Easthampton
Parkhill Mfg. Co., Fitchburg
Griswoldville Mfg. Co., Griswoldville
Farr Alpaca Co., Holyoke
Arlington Mills, Lawrence
Lawrence Dye Works, Lawrence
Pacific Mills, Lawrence
Hamilton Mfg. Co., Lowell
Lowell Bleachery, "
Mass. Cotton Mills, "
Merrimack Mfg. Co., "
Waterhead Mills, "
Oxford Linen Mills, No. Brookfield
Mt. Hope Finishing Co., No. Dighton
Danvers Bl. & Dye Works, Peabody
Southbridge Printing Works, Southbridge
Boston Mfg. Co., Waltham
Waltham Bl. & Dye Works, Waltham
S. Slater & Sons, Webster

RHODE ISLAND.

Apponang Co., Apponang
Cranston Print Works, Cranston
Narragansett Fin. Co., "
Crompton Co., Crompton
Greenwich Bleachery, E. Greenwich
Lonsdale Co., Lonsdale
Am. Hair Cloth Co., Pawtucket
U. S. Finishing Co., "
Pontiac Bleachery, Pontiac
Providence D. & Bl. Co., Providence
Queen Dyeing Co., Providence
Silver Springs Bl. & Dyeing Co., Providence
Glenlyon Dye Works, Saylesville
Sayles Bleacheries "
Frost Finishing Co., W. Barrington

Cocheo Mfg. Co., Dover, N. H.

That's "the other fellow's experience." YOUR PROFIT comes in ADDING YOUR NAME TO THE LIST.

REEVES PULLEY CO., COLUMBUS, IND., U. S. A.

Foster Machine Company

Builders of

Cone and Tube Winders

Office and Works at

Westfield, - Massachusetts

HYGROSSO

Motor Drive
Belt Drive

The Simplest Humidifier made.

WATER vapor produced by centrifugal force.
No enclosed chamber to be cleaned.
No air compressors or pressure pumps.
Efficient, strong, durable and economical to operate.

Apparatus and results fully guaranteed.

JOHN W. FRIES

45 Lafayette Street, New York

Demonstration at Textile Exhibitors Association, Boston, April 25th-30th

Humidified and Purified Air

Increases output. Bell Humidifiers are separate units, easily put up, requiring no attention from overseers and depending on no delicate automatic switches.

Get our Catalogue and read it carefully.

The Griscom-Spencer Co.

90 West Street New York

Walworth Manufacturing Co.,

HIGH PRESSURE

VALVES AND FITTINGS

"Walmanco" Pipe Flanges
"Never Stick" Blow-off Cocks, Mill Supplies.

GENERAL OFFICES:
128 FEDERAL STREET, BOSTON, MASS.
New York Office: Park Row Building.

JUL 13 1907